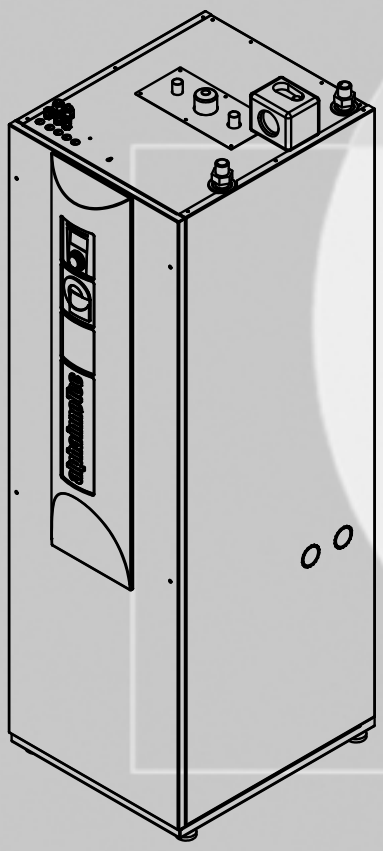
Operating Manual

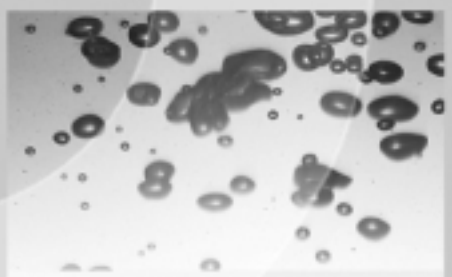
UK

BRINE/WATER HEAT PUMPS

Heat Station



WZS Series



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Please read first

This operating manual provides important information on the handling of the unit. It is an integral part of the product and must be stored so that it is accessible in the immediate vicinity of the unit. It must remain available throughout the entire service life of the unit. It must be handed over to subsequent owners or operators of the unit.

Read the operating manual before working on or operating the unit. This applies in particular to the chapter on safety. Always follow all instructions completely and without restrictions.

It is possible that this operating manual may contain instructions that seem incomprehensible or unclear. In case of questions or uncertainty, contact the factory customer service department or the manufacturer's local service partner.

Since this operating manual was written for several different models of the unit, always comply with the parameters for the respective model.

This operating manual is intended only for persons assigned to work on or operate the unit. Treat all constituent parts confidentially. The information contained herein is protected by copyright. No part of this information may be reproduced, transmitted, copied, stored in electronic data systems or translated into another language, either wholly or in part, without the express written permission of the manufacturer.

Alpha-InnoTec GmbH
Industriestrasse 3
D – 95359 Kasendorf
Tel.: +49 (0) 9228 9906 0
Fax: +49 (0) 9228 9906 29

e-Mail: info@alpha-innotec.com

www.alpha-innotec.com

Symbols

The following symbols are used in the operating manual. They have the following meaning:

Information for operators.

Information or instructions for qualified technicians.

DANGER!
Indicates a direct impending danger resulting in severe injuries or death.

WARNING!
Indicates a possibly dangerous situation that could result in severe injuries or death.

CAUTION!
Indicates a possibly dangerous situation that could result in medium or light injuries.

CAUTION.
Indicates a possibly dangerous situation, which could result in property damage.

NOTICE.
Emphasized information.

Reference to other sections of the operating manual.

Reference to other instructions of the manufacturer.

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Intended use

The unit may be used only for the intended use. This means:

- for heating.
- for heating hot water.
- for cooling.
  (Availability of the cooling function depends on the model).

☞ "Cooling function" section.

The unit may be operated only within its technical parameters.

☞ Overview "Technical data/scope of delivery".

NOTICE.
Notify the responsible power supply company of the use of a heat pump or heat pump system.

Exclusion of liability

The manufacturer will not be liable for damage resulting from unauthorized use of the unit.

The manufacturer's liability will also be voided in the following cases:

- if work is performed on the unit and its components in a manner that does not comply with the terms of this operating manual;
- if work is performed on the unit and its components in an improper manner;
- if work is performed on the unit that is not described in this operating manual, and this work was not expressly approved in writing by the manufacturer;
- if the unit or components in the unit are modified, redesigned or removed without the express written permission of the manufacturer.

EC conformity

The unit bears the CE mark of conformity.

☞ EC declaration of conformity

Safety

The unit is operationally safe when used for the intended purpose. The construction and design of the unit conform to the state of the art, all relevant DIN/VDE regulations and all relevant safety regulations.

Every person who performs work on the unit must have read and understood the operating manual prior to starting any work. This also applies if the respective person has already worked with such a unit or a similar unit or has been trained by the manufacturer.

Every person who performs work on the unit must comply with the applicable accident prevention and safety regulations. This applies in particular to the wearing of personal safety gear.

DANGER!
Unit operates under high electric voltage!

DANGER!
Only qualified technicians (trained heating, cooling, refrigerant and electrical technicians) may perform work on the unit and its components.

WARNING!
Observe safety labels on and in the unit.

WARNING!
Unit contains refrigerants!
Leaking refrigerant could result in personal injury or material damage. Therefore:

- **Shut down unit.**
- **Ventilate installation location.**
- **Notify the manufacturer's authorized service center.**

CAUTION.
For safety reasons: Never disconnect the unit from the power supply, unless the unit is being opened.

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Customer service

For technical assistance, contact the factory customer service department or the manufacturer's local service partner.

☞ Overview "Customer service".

Warranty / Guarantee

For warranty and guarantee conditions, please refer to the purchase documents.

NOTICE.
Please contact your dealer concerning warranties and guarantees.

Disposal

When decommissioning the unit, always comply with applicable laws, directives and standards for the recovery, recycling and disposal of materials and components of cooling units.

☞ "Dismantling".

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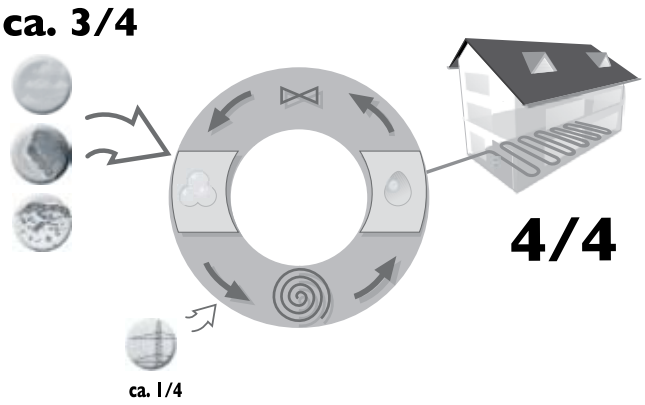
Operating principle of heat pumps

Heat pumps operate on the principle of a refrigerator: the same technology, only with the opposite effect. The refrigerator extracts heat from foods, which is released into the room through fins on the back.

The heat pump extracts heat from our environment: air, earth or ground water. The extracted heat is conditioned in the unit and supplied to the heating water. Even when it is extremely cold outside, the heat pump draws enough heat to heat a house.

Example: drawing of a brine/water heat pump with floor heating:



4/4 = usable energy
ca. 3/4 = environmental energy
ca. 1/4 = external electrical energy

Area of utilization

Taking into consideration the ambient conditions, limits of application and the applicable regulations, every heat pump can be utilized in new or existing heating systems.

☞ Overview "Technical data/scope of delivery".

Operation

Your decision to purchase a heat pump or a heat pump system is a long-term contribution to protecting the environment through low emissions and reduced primary energy use.

You can operate and control the heat pump system with the control element of the heating and heat pump regulator.

NOTICE.
Make sure that the control settings are correct.

Operating manual of the heating and heat pump regulator.

To ensure that your heat pump or heat pump system operates efficiently and ecologically, the following are especially important:

NOTICE.
Avoid unnecessarily high flow temperatures.

A lower flow temperature on the hot water side increases the efficiency of the system.

When letting in fresh air, do not leave windows open for an extended period in order to save energy and reduce your heating costs.

Cooling function

The cooling function is available only for heat pumps with the **model designator K**.

It is not possible to retrofit heat pumps for cooling without this designator. For the model designator, please refer to the purchase documents. It is also on the rating plate attached to the outside of the unit.

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The cooling function is based on the principle of passive cooling. An existing low temperature level is mixed to a temperature above the dew point and transferred to the heating medium by means of a heat exchanger. The heat pump remains switched off during cooling; only the circulating pumps for the heating circuit and the heat source are in operation.

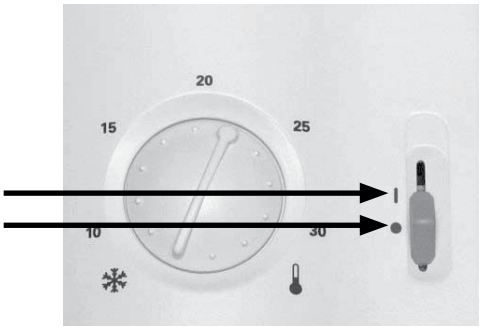
The cooling power depends on the heat source temperature, which varies seasonally. For example, if the ground stored more heat toward the end of the summer, the cooling power of a brine/water pump is reduced.

The effectiveness of passive cooling is generally not comparable to that of an air conditioning system.

NOTICE.
The use of the passive cooling function requires floor or wall heating.

THE ROOM THERMOSTAT FOR THE COOLING FUNCTION

The room thermostat is used to switch the cooling function on and off:



I Cooling function on
● Cooling function off

UTILIZATION OF THE COOLING FUNCTION

The heating and heat pump regulation program activates the cooling function only if the following conditions are fulfilled:

- Heat pump model must have integrated cooling function.
- Room thermostat for the cooling function must be switched on.
- Temperature of the heat source must be ≥ +5 °C.
- Heat pump must not currently be occupied with "heating" or "water heating".
  If the heat pump regulation program sends the command "water heating" to the heat pump, the cooling function of the heat pump automatically stops as long as the water is heating.
- The "Automatic" setting must be selected on the control element under "Operating mode: cooling".
- The outdoor temperature release set on the control element must be exceeded.

Operating manual of the heating and heat pump regulator.

The cooling function can be used in two variants:

Variant 1:

Manual switching from heating to cooling operation (and vice versa). This variant operates at a pre-set forward flow temperature.

Operating manual of the heating and heat pump regulator.

Variant 2:

Automatic switching from heating to cooling operation (and vice versa). This variant can operate using a cooling curve.

NOTICE.
Variant 2 is possible only if a Comfort board (available at extra charge) is built into the heating and heat pump regulator.

Comfort board operating manual.

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Care of the unit

The outer surfaces of the unit can be cleaned with a damp cloth and household cleaning products.

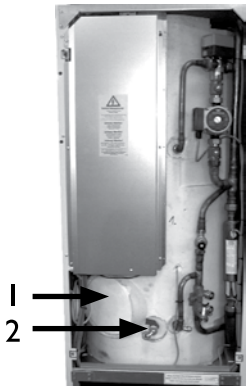
Do not use cleaning or care products that contain abrasives, acids and/or chlorine. Such products would destroy the surfaces and could also damage the technical components of the unit.

Maintenance of the unit

The cooling circuit of the heat pump requires no regular maintenance.

The components of the heating circuit and the heat source (valves, expansion vessels, circulating pumps) should be inspected annually by a qualified technician.

The hot water tank should be cleaned once each year. To do this, first empty the hot water tank. Then remove the Styrofoam guard through the service hole of the hot water tank. Screw off the flange cover of the service hole.



1 Hot water tank service hole (under Styrofoam cover)
2 Hot water tank emptying valve

Check the safety valve (provided by customer) for the hot water tank at regular intervals. Since an external current anode is built in, the anode requires no maintenance.

It is a good idea to have a maintenance contract with a heating installation company. The company will conduct all required maintenance at regular intervals.

CLEANING AND RINSING OF UNIT COMPONENTS

CAUTION!

Unit components may be cleaned and rinsed only by customer service personnel authorized by the manufacturer. Use only liquids recommended by the manufacturer.

Rinsing of the liquefier with chemical cleaning agents must be followed by neutralization of residue and intensive rinsing with water. Always observe the technical data of the manufacturer of the heat exchanger.

Malfunctions

In the event of a malfunction, you can detect the cause of the malfunction via the diagnostic program of the heating and heat pump regulator.

Operating manual of the heating and heat pump regulator.

DANGER!
Service and repair work on the components of the unit may be performed only by customer service personnel authorized by the manufacturer.

Overview "Customer service".

Note that no malfunction is displayed if the safety temperature limiter on the electric heating element has been triggered.

Commissioning", "Safety temperature limiter" section.

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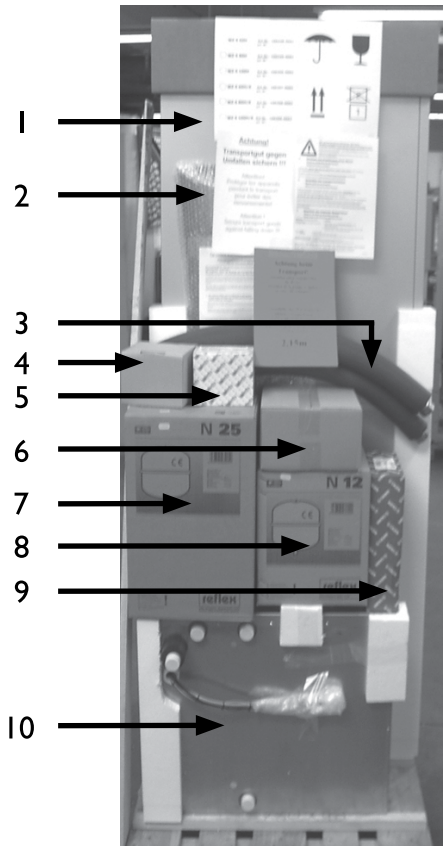
Scope of delivery

Example of scope of delivery:



1 Compact unit with integrated hot water tank, electric heating element, integrated circulating pump heating circuit and sensors
2 Screen
3 Vibration decouplers for heat source connection
4 Control element of the heating and heat pump regulator
5 Safety component for heating circuit
6 Package with 4 feet, 1 outdoor sensor, 1 insulating set, 2 ball valves (model with designator K: 1 ball valve), 8 seals, 1 service hose, 1 cap valve, 1 mount for expansion vessel of heating circuit, (model with cooling function: room thermostat)
7 Expansion vessel of heating circuit, 25 l
8 Expansion vessel of heat source, 12 l
9 Connection assembly for heat source
10 Module box with integrated circulating pump of heat source

Proceed as follows:

① Inspect delivery for outwardly visible signs of damage.

② Check to make sure that delivery is complete. Any defects or incorrect deliveries must be claimed immediately.

NOTICE.
Note the model.

Overview "Technical data/scope of delivery" or rating plate on unit.

Installation and assembly

Observe the following when performing all work:

NOTICE.
Always comply with applicable accident prevention regulations, statutory regulations, ordinances and directives.

WARNING!
The heat pump or heat pump system may be installed and assembled only by a qualified technician!

NOTICE.
Observe the sound levels of the respective model.

Overview "Technical data/scope of delivery", "Sound" section.

INSTALLATION AREA

CAUTION.
Install the unit only indoors.

The installation area must be frost-free and dry. It must meet the requirements of DIN EN 378. It must also fulfill applicable local regulations.

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TRANSPORT TO INSTALLATION LOCATION

To avoid damage during transport, you should transport the unit to the final installation location (secured on a wooden pallet) using a lifting truck.

If it is not possible to transport the unit to the final installation location using a lifting truck, you can also transport the unit using a hand truck.

DANGER!
Several people are required to transport the unit. Do not underestimate the weight of the units.

☞ Overview "Technical data/scope of delivery", "General unit data" section.

CAUTION!
Wear safety gloves.

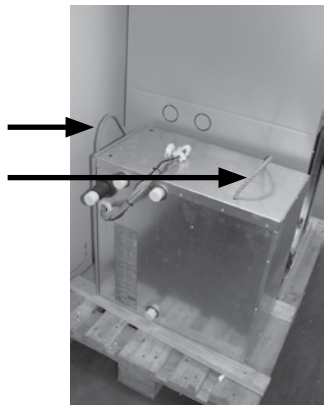
DANGER!
Unit is not fastened to the wooden pallet. The unit can tip when being lifted down and during transport with a hand truck. This can result in personal injury and damage to the unit.

- **Take suitable precautionary measures to eliminate the danger of tipping.**

Proceed as follows if transport with a lifting truck is not possible:

① Remove packaging and transport material. Remove extra box and module box from the wooden pallet and bring to installation location.

Use straps to lift and carry the module box.



CAUTION.
Do not tilt the module box more than a maximum of 45° (in any direction).

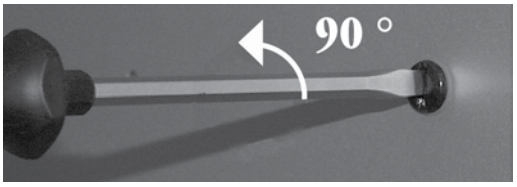
CAUTION.
Never use components, pipes of the cooling circuit or hydraulic connections on the module box for transport purposes.

CAUTION.
Do not damage the hydraulic connections under any circumstances.

Dispose of angle bracket, transport and packaging material properly and in accordance with ecological principles.

② We recommend removing the front panel to reduce the weight of the unit for further transport.

Loosen quick-release screws for the front panel. Turn counter-clockwise 90°.



Lift front panel and set aside in a safe place.

③ Transport unit to installation location using a hand truck or have two persons carry it.

DANGER!
Make sure to secure unit on the hand truck against slipping during transport.

CAUTION.
Do not damage the hydraulic connections under any circumstances.

- **Push hand truck only beneath back of unit for transport.**

NOTICE:
Without the module box, the unit can be transported horizontally.

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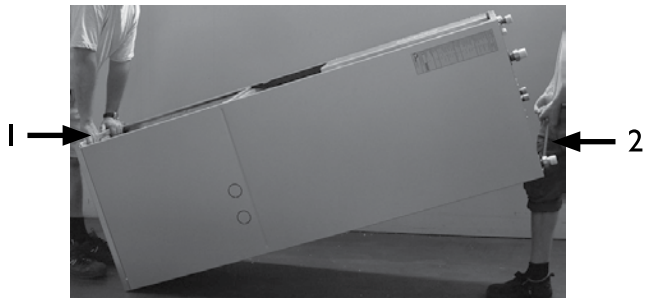


1 Recessed grips
2 Carrying strap

CAUTION.
Never use components and hydraulic connections on the unit for purposes of transport.

INSTALLATION

DANGER!
Several people are required to install the unit. Do not underestimate the weight of the unit.

NOTICE.
The heat source can be connected either on the left or right side of the unit. Maintain the required clearance between the connection side and the wall.

☞ "Installation of the hydraulic connections", "Connection of module box to the heat source" section.

Always comply with required clearance dimensions.

☞ "Dimensional drawings" and "Clearance dimensions" overviews.

Proceed as follows at the installation location:

① Set unit on a solid and level, preferably sound-insulated surface.

② Mount feet.

CAUTION.
Moving the unit without the feet mounted can damage the floor.

Mount the feet before installing the module box in the unit.

Proceed as follows to mount the feet on the unit:

②•①

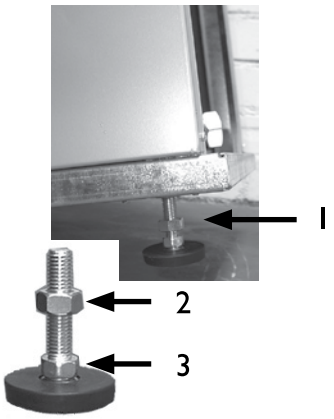
Tip the unit slowly and carefully to one side.

Secure unit in raised position so that it cannot accidentally tip back into the original position.

CAUTION!
Hands and fingers could be crushed during the following tasks!

②•②

Mount one foot each on the front and back of the unit.



1 Foot
2 Lock nut
3 Adjusting screw

②•③

Slowly and carefully tip the unit back into the original position.

②•④

Repeat procedure on the other side of the unit.

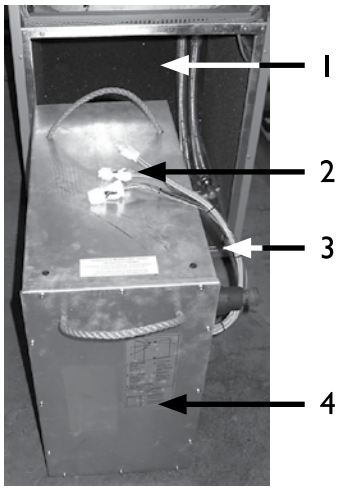
③ Place unit at final installation location. Compensate for minor unevenness using the four adjusting screws. Then tighten the lock nuts.

INSTALLATION OF THE MODULE BOX

The entire cooling circuit of the heat station is contained in the module box.

! CAUTION.
Do not tilt the module box more than a maximum of 45° (in any direction).

① Place module box in front of the unit.

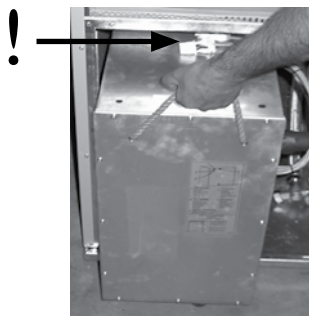


1 Unit
2 Plug for electrical connection
3 Front edge of bottom of unit
4 Module box

② Use straps to lift module box and initially place in unit so that the rubber feet of the module box that are facing the unit come to rest on the centering plate behind the front edger of the bottom of the unit.

③ Push module box into the unit until the front rubber foot of the module box contacts the front edge of the bottom of the unit and has to be lifted over it.

When pushing in the box, make sure that the plugs for the electrical connection are not pinched and damaged.

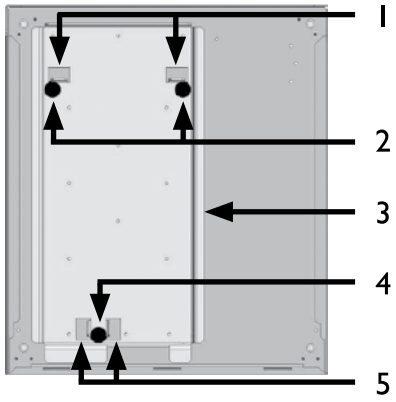


④ Raise module box, push it further into the unit and lower the box as soon as the rubber feet contact the corresponding stops of the centering plate.

Set the front left rubber foot of the module box between the guide elements.

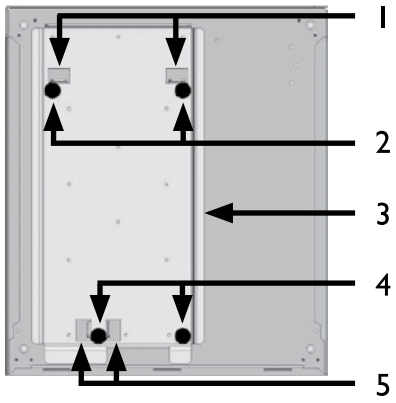
The module box is positioned correctly in the unit when the rubber feed are placed as shown in the following sketch:

WZS 60…:



1 Stops on centering plate
2 Rear rubber feet of module box
3 Centering plate for module box on bottom of unit
4 Front rubber foot of module box
5 Guide element

WZS 80… and WZS 100…:



1 Stops on centering plate
2 Rear rubber feet of module box
3 Centering plate for module box on bottom of unit
4 Front rubber feet of module box
5 Guide element

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CAUTION.
Once the module box has been placed in the unit, it can no longer be transported.

INSTALLATION OF THE HYDRAULIC CONNECTIONS

CAUTION.
The heat source system must be designed according to the specifications of the heat pump guide.

Heat pump guide and "Hydraulic connection" instructions.

NOTICE.
Check to make sure that the diameters and lengths of the pipes for the heating circuit and the heat source are sufficiently dimensioned. The free compression of the circulating pumps must be able to deliver at least the minimum flow rate required for your model.

Overview "Technical data/scope of delivery", "Heat source" and "Heating circuit" sections.

DANGER!
Danger of fatal injury due to electric current! Disconnect unit from power supply if it is connected to the power supply!

Proceed as follows:

① Install shut-off devices at the heating circuit.

② Install shut-off devices at the heat source.

NOTICE.
During installation of the shut-off devices, the evaporator and liquefier of the heat pump can be rinsed, if necessary.

CAUTION!
The condenser may be rinsed only by customer service personnel authorized by the manufacturer.

CAUTION.
During connection of components, secure connections on the module box and on the compact unit against twisting in order to prevent damage to the copper pipes in the inside of the module box and the compact unit.

③ Place a bleeder at the highest point of the heat source in the heat source outflow.

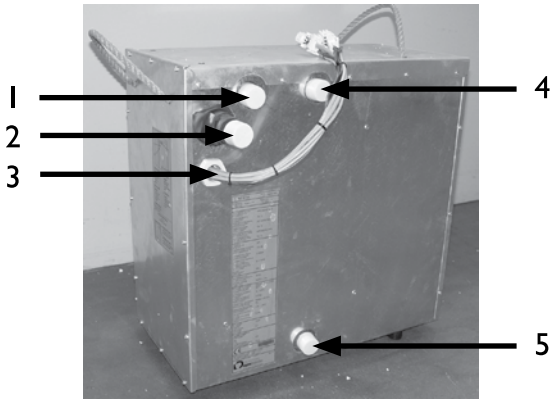
If necessary, place a bleeder at the highest point of the heat source in the heat source inflow.

④ Place a bleeder at the highest point of the heating circuit in the heating circuit outflow (forward flow).

If necessary, place a bleeder at the highest point of the heating circuit in the heating circuit inflow (return flow).

⑤ We recommend installing a contamination filter (screen size 0.9 mm) on the heat source inflow connection.

CONNECTIONS ON THE MODULE BOX



1 Heat source inflow
2 Heat source outflow
3 Electric/sensor lines
4 Heating circuit outflow (forward flow)
5 Heating circuit inflow (return flow)

CONNECTING THE MODULE BOX TO THE HEATING CIRCUIT

The vibration decouplers for the connection of the heating circuit to the module box are pre-mounted in the unit. They are located to the right of the module box after it has been inserted.

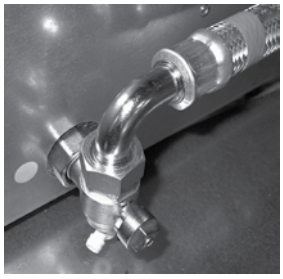
Proceed as follows:

① Remove two seals from the extra box and place them in the angle ball valves.

② Screw angle ball valves of the vibration decouplers to the heating circuit connections.

Heating circuit outflow (forward flow) connection

Heating circuit inflow (return flow) connection for models without cooling function.



Heating circuit inflow (return flow) connection for models with cooling function.

NOTICE.
Always note which is the inflow (return flow) and outflow (forward flow) of the heating circuit. They are marked with colors, as are the vibration decouplers:

red = hot water outflow (forward flow)
blue = hot water inflow (return flow)

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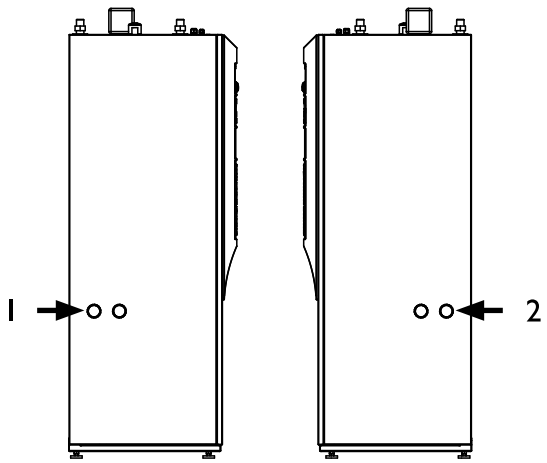
CONNECTING THE MODULE BOX TO THE HEAT SOURCE

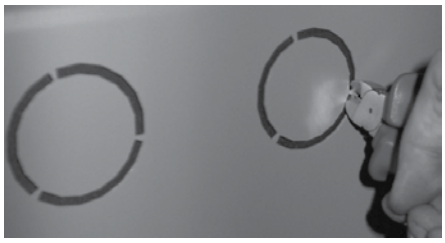
Vibration decouplers are included for the connection to the pipes of the heat source. They must be installed in order to prevent damage from vibrations to the pipes. The pipes of the heat source can be connected either on the right or left side of the unit.



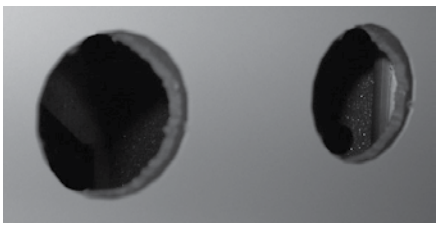
1 Connection on left side of unit
2 Connection on right side of unit

Proceed as follows:

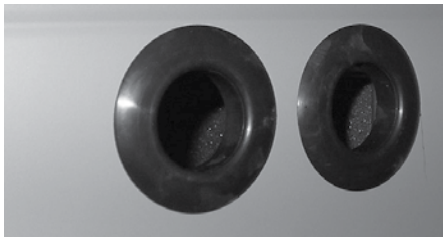
① Cut out round plates on the desired connection side.



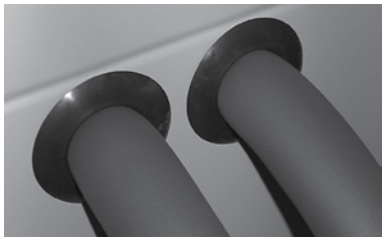
② Make sure that no metal burrs remain. Cut foam with a knife.



③ Insert included plastic rosettes in the holes.



④ Insert vibration decouplers in unit from outside and guide them inside the unit to the connections on the module box.



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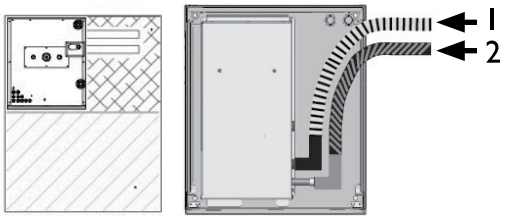
CONNECTION OF THE VIBRATION DECOUPLERS ON A UNIT WITHOUT COOLING FUNCTION

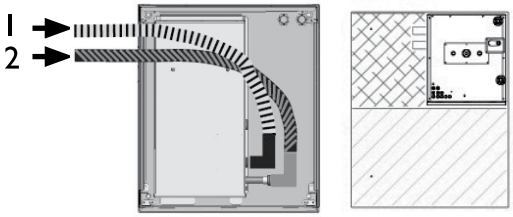
① Arrange vibration decouplers in a quarter circle in the unit to the connections on the module box.

Example of hose installation for connection on right side of unit (top view):



1 Heat source inflow
2 Heat source outflow

Example of hose installation for connection on left side of unit (top view):



1 Heat source inflow
2 Heat source outflow

② Screw included angle ball valves to vibration decouplers. Use seals from the extra box.

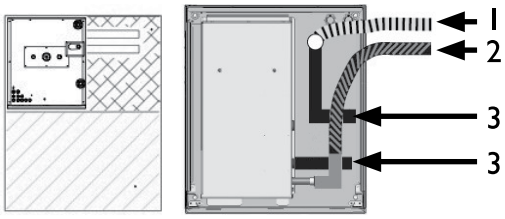
③ Screw angle ball valves to the connections provided on the module box. Use seals from the extra box.

! CAUTION.
When tightening the connections on the module box, always secure connections against twisting.

CONNECTION OF THE VIBRATION DECOUPLERS ON A UNIT WITH COOLING FUNCTION

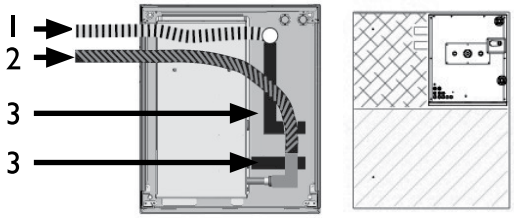
① Arrange vibration decouplers in a quarter circle in the unit.

Example of hose installation for connection on right side of unit (top view):

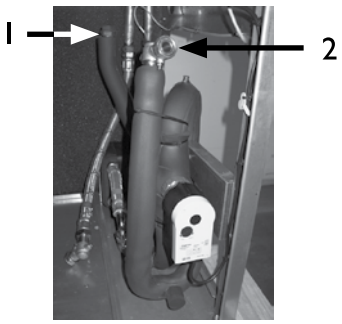


1 Heat source inflow
2 Heat source outflow
3 Connecting pipe to and from cooling function for heat source inflow

Example of hose installation for connection on left side of unit (top view):



1 Heat source inflow
2 Heat source outflow
3 Connecting pipe to and from cooling function for heat source inflow, pre-mounted in unit



1 Connection of heat source inflow to cooling function (not insulated at time of delivery)
2 Connection of heat source inflow from cooling function to module box (not insulated at time of delivery)

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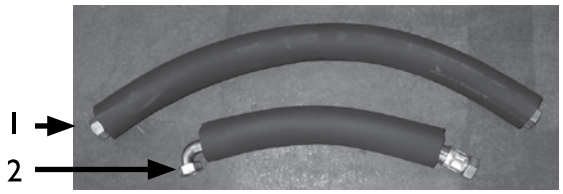
② Screw vibration decoupler (with elbow) of heat source inflow to provided connecting pipe. Use seals from the extra box.



1 Vibration decoupler without elbow
2 Vibration decoupler with elbow

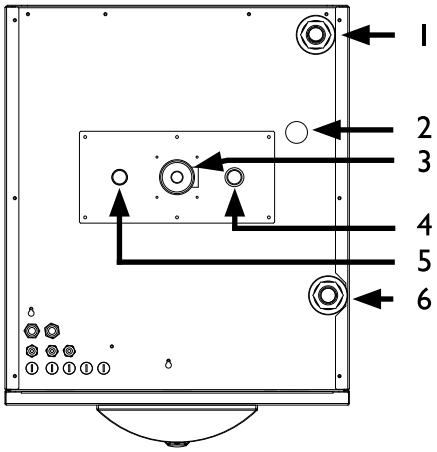
③ Screw included angle ball valve to vibration decoupler (without elbow) of heat source outflow. Use seals from the extra box.

④ Screw angle ball valve to the connection for the heat source outflow on the module box. Use seals from the extra box.

! CAUTION.
When tightening the connections on the module box and the connecting pipe, always secure connections against twisting.

CONNECTING THE COMPACT UNIT TO THE HEATING CIRCUIT

The connections for the pipes of the heating circuit and the hot water supply are located on the top of the unit.



1 Heating circuit inflow (return flow)
2 Connection for heating circuit safety component
3 External current anode (under plastic cap)
4 Hot water connection, warm
5 Hot water connection, cold
6 Heating circuit outflow (forward flow)

Bleeding valves have to be installed above the heat station for connection of the heating circuit and the hot water supply.

Connect hot water tank according to DIN 1988 and DIN 4753, Part 1 (or the local applicable standards and directives).

Do not exceed the operating pressures specified on the rating plate. Install a pressure reducer, if necessary.

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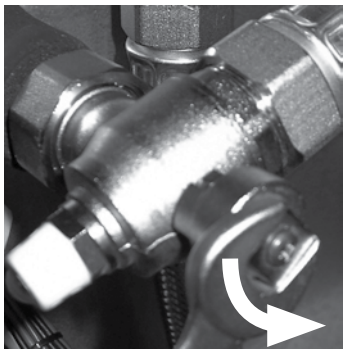
OPENING THE ANGLE BALL VALVES ON THE MODULE BOX

Open all angle ball valves on the module box by turning them 90° counter-clockwise.



SAFETY COMPONENT

The safety component for the heating circuit is in the extra box.

Mount the safety component on the connection provided on the top of the unit.

EXPANSION VESSELS

The expansion vessel of the heat source is included in delivery and must be installed with the connection assembly.

The expansion vessel for the heating circuit, the corresponding cap valve and the wall mount are included in the scope of delivery. They must be integrated in the heating circuit on-site in compliance with the applicable standards and directives.

We recommend installing a suitable expansion vessel (not included in delivery) in the hot water circuit. This equalizes pressure fluctuations or water shocks in the cold water network and prevents unnecessary loss of water.

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Electrical connections

Observe the following when performing all work:

DANGER!
Danger of fatal injury due to electric current! Electrical connections may be installed only by qualified electricians.

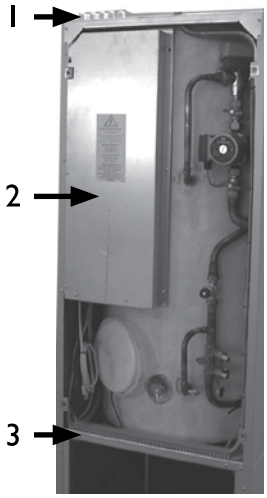
DANGER!
Observe the relevant EN, VDE and/or applicable local safety regulations during the installation and during all electrical work.

Comply with technical connection requirements of the responsible power supply company (if required by the latter)!

① Remove front panel of unit, if necessary.

Transport to installation location.

☞ Obtain overview of the interior of the unit.

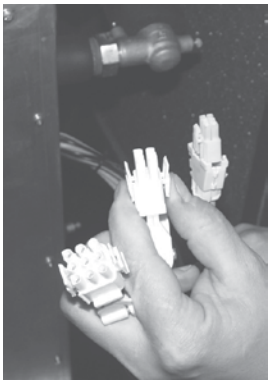


1 Ducts for electric/sensor cables with strain relief screws
2 Electrical switch cabinet
3 Intermediate floor of unit

② Connect connecting plug of module box.

! CAUTION.
Insert all three connecting plugs of the module box in the plug-in connections on the bottom of the intermediate floor of the unit.

Watch out for retaining nose. Plugs must be mounted for easy movement.



③ Open electrical switch cabinet of unit.

To do this, only loosen the two upper screws of the cover plate. Remove the remaining screws. Now the cover plate can be removed.

④ Insert load lines and external control and sensor wires in unit through holes at top for electric/sensor wires. Guide wires via the cable duct to the terminals. Tighten strain relief screws.

⑤ Install electrical connections according to the terminal diagram and the circuit diagrams.

☞ "Terminal diagram" and "Circuit diagrams".

DANGER!
Install electric connections only according to the terminal diagram and the circuit diagrams that apply to your model.

! CAUTION.
Ensure clockwise rotary field of the load power supply (compressor).

- **An incorrect rotary field of the compressor during operation can cause serious, irreparable damage to the compressor.**

! CAUTION.
Make sure to equip the power supply of the heat pump with a 3-pole automatic cut-out with at least 3 mm contact gap.

Note the level of the release current.

☞ Overview "Technical data/scope of delivery", "Electric" section.

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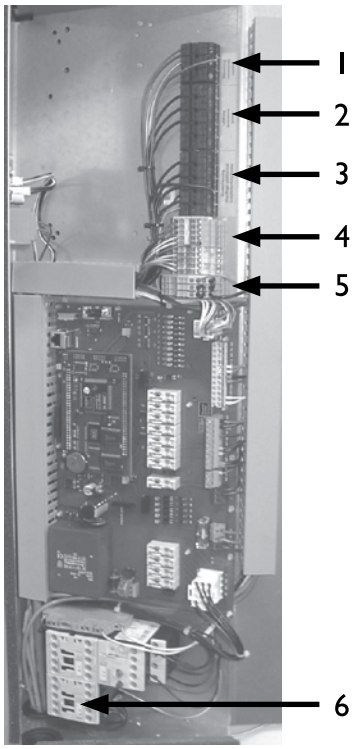
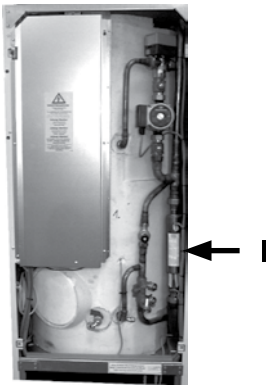


1 Connection for control unit
2 Connection for output compressor 3PE
3 Connection for additional heating 3NPE
4 N/PE
5 Only for units with cooling function: 3 additional terminals for room thermostat and dew point sensor
6 Contactor for heating element

NOTICE.
Electric heating element is connected for 6 kW at factory. It can be connected for 2 or 4 kW on the contactor.

For further information, see the adhesive label on the electric heating element.



1 Adhesive label on electric heating element

⑥ After completion of all electrical installation work, close the switch cabinet inside the unit.

⑦ Close the front panel of the unit if no further installation work inside the unit is to be performed immediately.

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Rinsing and filling the unit

DANGER!
Danger of fatal injury due to electric current!

Disconnect unit from power supply.

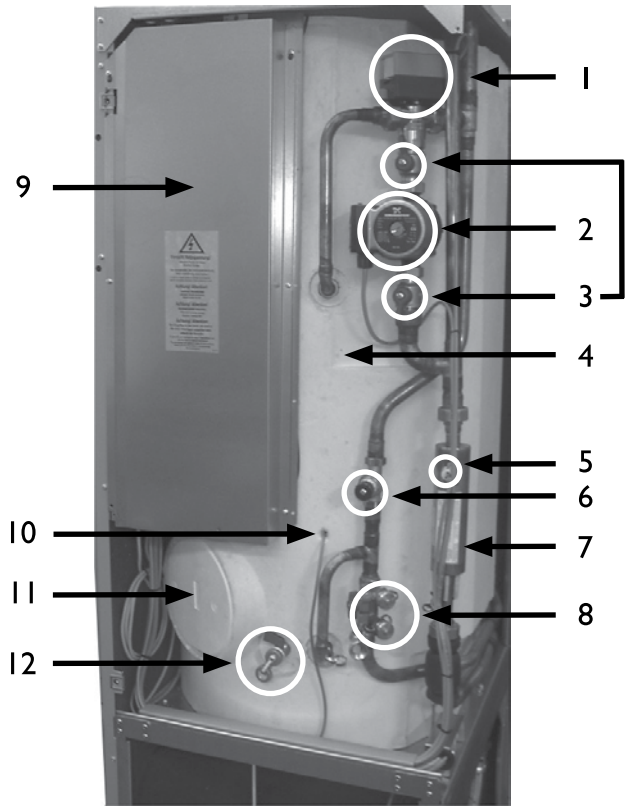
Proceed as follows:

① Open unit if this has not already been done.

☞ Transport to installation location, ②.

② Obtain overview of the interior of the unit.

DANGER!
The electric switch cabinet inside the unit must be closed with the cabinet's cover!



1 3-way switching valve for heating circuit/hot water
2 Circulating pump for heating circuit/hot water
3 Pump ball valves
4 Hot-water tank
5 Reset knob of electric heating element
6 Overflow valve
7 Electric heating element
8 Rinsing ball valve
9 Electrical switch cabinet
10 Sensor for hot water tank
11 Hot water tank service hole (under Styrofoam cover)
12 Hot water tank emptying valve

CLEANING AND RINSING OF UNIT COMPONENTS

CAUTION!
Unit components may be cleaned and rinsed only by customer service personnel authorized by the manufacturer. Use only liquids recommended by the manufacturer.

Rinsing of the liquefier with chemical cleaning agents must be followed by neutralization of residue and intensive rinsing with water. Always observe the technical data of the manufacturer of the heat exchanger.

RINSING AND FILLING THE HEAT SOURCE

Contamination and deposits in the heat source can cause malfunctions.

Proceed as follows:

① Rinse heat source system thoroughly.

② Thoroughly mix the anti-freeze agent, available as an accessory, with water at the required ratio. Add only anti-freeze mixed with water to the heat source.

③ Check concentration of anti-freeze in the mixture.

CAUTION.
The concentration of anti-freeze in the water must be at the level specified for your model.

☞ Overview "Technical data/scope of delivery", "Heat source" section.

④ Fill heat source with anti-freeze mixture.

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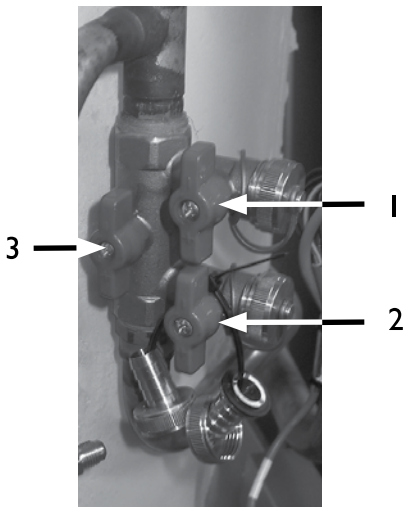
RINSING AND FILLING THE HOT WATER AND HEATING WATER CIRCUITS

Use the rinsing ball valves for rinsing and filling.



Picture shows operating condition at time of delivery.

Contamination and deposits in the heating circuit can cause malfunctions.

! CAUTION.
Before rinsing and filling the heating circuit, the drain pipe of the safety component must be connected.

① Close rinsing ball valve 3.

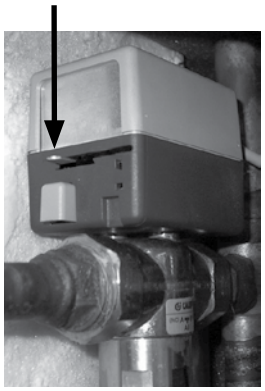
② Connect hose for water outlet to rinsing ball valve 1 and lead to a drain.

Open rinsing ball valve 1.

③ Connect hose for water inlet to rinsing ball valve 2.

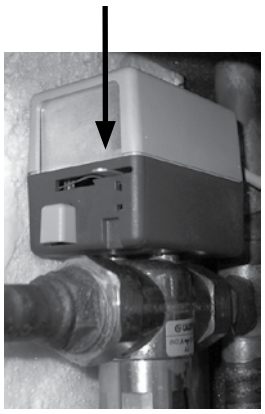
Open rinsing ball valve 2.

④ Move lever on 3-way switching valve for heating circuit/hot water to left and hold in that position for about 1 minute while the hot water circuit is rinsed and filled.



! CAUTION.
Do not exceed a pressure of 2.5 bar.

⑥ Move lever on 3-way switching valve for the heating circuit/hot water to the right (= normal position).



⑧ Rinse heating circuit.

⑨ After completion of the rinsing and filling procedure, move rinsing ball valves to starting position.

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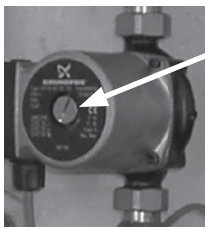
Bleeding

The unit is bled automatically when the bleeder (black cap) of the safety component of the heating circuit is open. If the heating circuit is filled or emptied, the bleeding valve of the safety component opens.

BLEEDING THE CIRCULATING PUMP OF THE HEATING CIRCUIT

Loosen the screw-on cap in the middle of the circulating pump for the heating circuit.

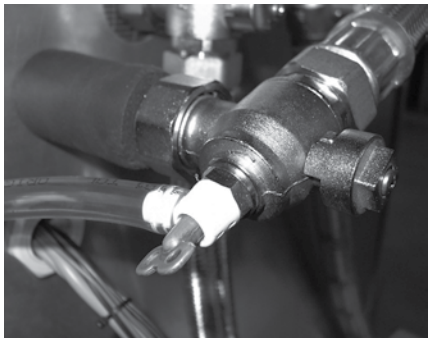


BLEEDING THE MODULE BOX

Proceed as follows:

① Attach service hose from the extra box to the angle ball valve.

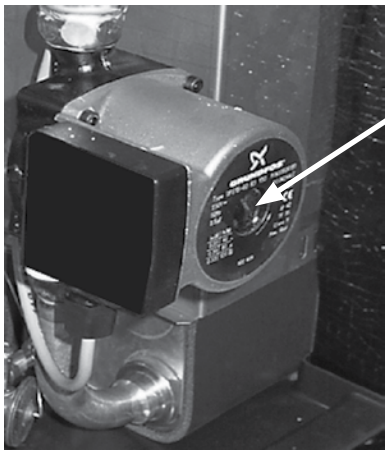
② Bleed bleeding valves on the four angle ball valves using the bleeding key.



BLEEDING THE CIRCULATING PUMP OF THE HEAT SOURCE

① Unscrew front panel of module box.

② Loosen the screw-on cap in the middle of the circulating pump for the heat source.



③ Screw on front panel of module box after bleeding.

BLEEDING THE HEAT SOURCE FOR A UNIT WITHOUT COOLING FUNCTION

Use angle ball valves on the module box for bleeding.

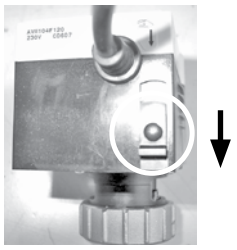
BLEEDING THE HEAT SOURCE FOR A UNIT WITH COOLING FUNCTION

Bleeding must be conducted manually on the servo-motor (next to the module box).

Proceed as follows:

① Release servo-motor at mixing valve.

Push switch on the bottom of the servo-motor to the back.



② Adjust mixing valve.

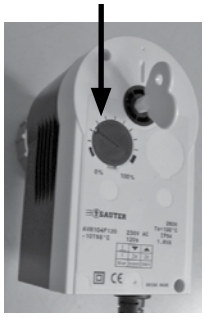
Use the wrench included in the scope of delivery. Alternatively: Use a size 6 Allen wrench.

②•①

Insert wrench in the servo-motor.

②•②

Turn wrench counter-clockwise until the regulator of the servo-motor is at 0%.



②•③

Switch on the circulating pump of the heat source and allow to run.

②•④

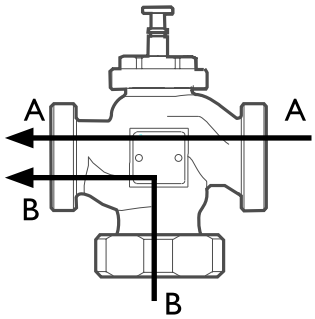
After 2 minutes, with the circulating pump running, turn wrench clockwise until the regulator of the servo-motor is at 100%.

Leave at this setting for 2 minutes.

②•⑤

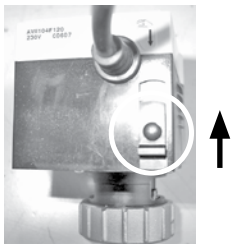
With the circulating pump running, turn wrench counter-clockwise until the regulator of the servo-motor is at 50%.

Turning the regulator to 50% means an even mixture in the 3-way mixing valve from A and B to AB.



③ Reset servo-motor of the mixing valve to automatic as soon as bleeding is completed.

NOTICE.
Push switch on the bottom of the servo-motor forward.



For units with cooling function, an additional bleeding valve is installed above the servo-motor for the heat source.

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Overflow valve

Set the overflow valve so that the spread between the forward and return flow is ≤ 10K (set at the factory to 200 mbar and sealed by paint).

Insulating the hydraulic connections

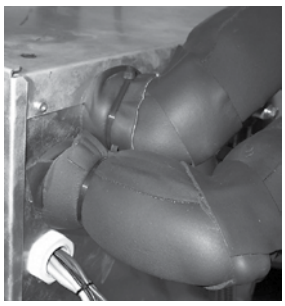
NOTICE.
Insulate the heating circuit and the heat source according to local applicable standards and directives.

The angle ball valves of the connections on the module box must be opened.

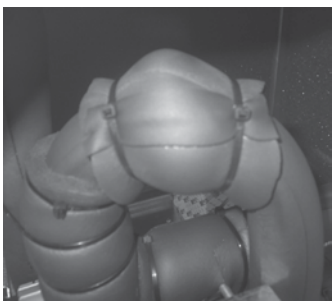
① Check seals of all hydraulic connections. Conduct pressure test.

② Remove insulation material for internal piles from the extra box.

③ Insulate all connections, angle ball valves, vibration decouplers, connections and lines of the heat source in the unit so that they are **vapor diffusion-tight**...

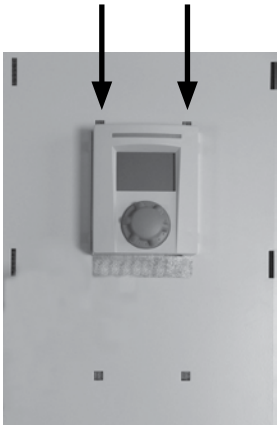


For units with cooling function, insulate angle ball valve and connecting pipe so that they are **vapor diffusion-tight**...

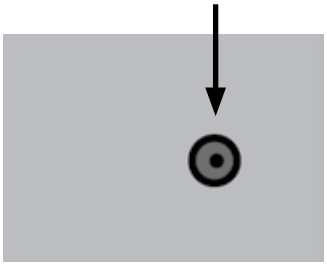


Installation of the control element

① Suspend the control element in the two square recesses in the front panel.



② Lay the control cable for the regulator from the inside of the unit through the sleeve in the front panel to the outside.



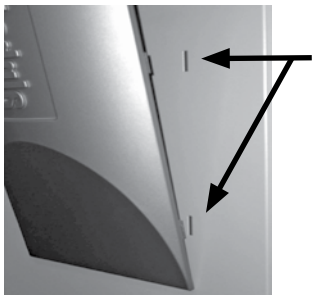
③ Install the front panel on the unit.

④ Insert the control cable into the bushing provided on the bottom of the control element.

Mounting and removal of the screen

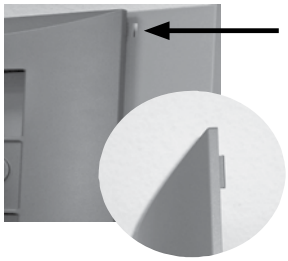
① **First**, insert the screen **at the bottom** in the slot provided on the front panel of the heat station.

② First, insert snap-in lugs **on one side** of the screen **from bottom to top** in the slots provided on the front panel of the unit.



③ Then, insert snap-in lugs **on the other side** of the screen **from bottom to top** in the slots provided on the front panel of the unit.

④ Finally, press the upper snap-in lugs of the screen into the slots provided.



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NOTICE.
To remove the screen, release the snap-in lugs in the reverse order, i.e. from top to bottom, without the use of tools.

CAUTION.
The snap-in lugs have a tight fit. Press firmly from the side against the screen toward the middle, so that the snap-in lugs do not break off.

Installation of the room thermostat for the cooling function

This chapter is relevant for you only if you are using a heat station with a **model designator K**.

CAUTION.
If floor heating systems are to be used for cooling, the manufacturer must approve the floor structure (especially the screed) for use of the cooling function.

Use the room thermostat of the cooling function in a reference room as a reference variable. If the temperature in the reference room falls below the set temperature, the cooling function of the heat station will automatically shut off.

Operating manual of the heating and heat pump regulator, "Cooling" chapter.

NOTICE.
You must install the room thermostat in a reference room in addition to single-room regulators.

You must install single-room regulators for switching from heating to cooling (and vice versa).

NOTICE.
Always comply with the applicable local standards and directives.

Hot-water tank

The integrated hot water tank is enameled according to DIN 4753 and is suitable for normal drinking water.

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Commissioning

Proceed as follows:

① Conduct a thorough installation inspection and go through the items on the general checklist.

☞ "General checklist".

The installation inspection will prevent damage to the heat pump system that could be caused by incorrect installation work.

Make sure of the following:

- **Clockwise rotary field** of the load power supply (compressor).
- **Installation and assembly** of the heat station according to the information in this operating manual.
- All electric installation work must be properly completed.
- A 3**-pole automatic circuit-breaker** must be installed for the compressor. It must have a contact gap of at least 3 mm.
- The heating circuit and the heat source must be rinsed, filled and bled thoroughly.
- All valves and shut-off devices of the heating circuit must be open.
- The concentration of the anti-freeze agent must be sufficient.
- All valves and shut-off devices of the heat source must be open.
- All pipe systems and components of the system must be sealed.

② Carefully fill out and sign the completion report for heat pump systems.

☞ "Completion report for heat pump systems".

③ In Germany:

Send completion report for heat pump systems to the manufacturer's factory customer service department.

Outside of Germany:

Send completion report for heat pump systems to the manufacturer's local partner.

☞ Overview "Customer service".

④ The heat pump system will be commissioned by customer service personnel authorized by the manufacturer. There is a fee for commissioning!

The initial filling and commissioning of the hot water tank must be carried out by a qualified technician.

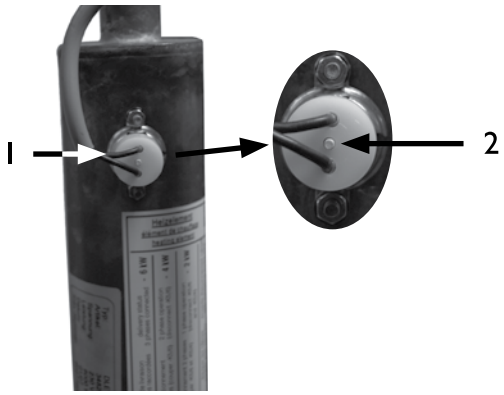
Make sure of the following:

- The water supply to the hot water tank must be open.
- The hot water tank must be filled.
  If the heat pump is switched on with an empty tank, the control element will indicate a malfunction.

📖 Operating manual of the heating and heat pump regulator.

SAFETY TEMPERATURE LIMITER

A safety temperature limiter is built into the electric heating element. In the event of a malfunction in the heat pump or air in the system, check whether the reset button of the safety temperature limiter has tripped. If this is the case, push in the button.



1 Safety temperature button on electric heating element
2 Reset button

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Dismantling

DANGER!
Danger of fatal injury due to electric current! Disconnect unit from power supply before dismantling!

DANGER!
Only qualified electrical technicians are allowed to disconnect the unit from the power supply and de-install all electrical connections.

DANGER!
Only qualified heating or cooling system technicians are allowed to remove the unit from the system.

CAUTION.
The anti-freeze mixture of the heat source must not be allowed to enter the sewer system. Collect anti-freeze mixture and dispose of properly.

DANGER!
Only qualified cooling system technicians are allowed to dismantle the unit and its components.

CAUTION.
Recycle or provide for proper disposal of unit components, refrigerants and oil in accordance with the applicable regulations, standards and directives.

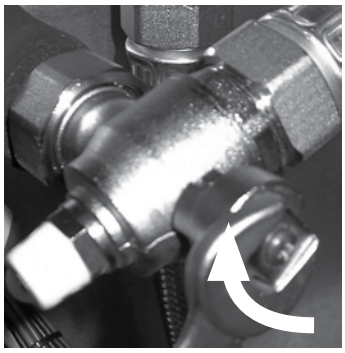
REMOVAL OF THE BUFFER BATTERY

CAUTION.
Before scrapping the heating and heat pump regulator, remove the buffer battery on the processor board. The battery can be removed using a side cutter. Dispose of battery and electronic components in keeping with environmental considerations.

REMOVAL OF THE MODULE BOX

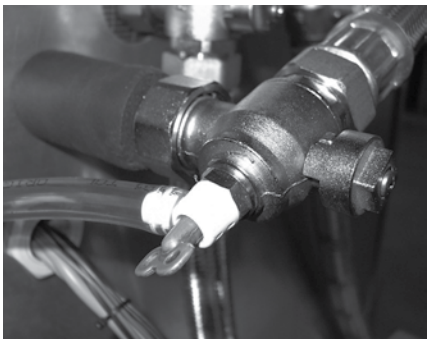
① Remove insulation.

② Close angle ball valves.



③ Attach service hoses from the extra box to the angle ball valves.

④ Open bleeding valves of the angle ball valves using a bleeding key and completely empty the module box.



⑤ Disconnect hydraulic and electric connections.

⑥ Raise module box using the straps and lift and pull from the unit.

Technical data/scope of delivery

Heat pump type	Brine/water ı Air/water ı Water/water			• applicable ı — not applicable
Installation location	Indoors ı Outdoors			• applicable ı — not applicable
Conformity				CE
Performance data	Heating capacity/COP at			
	B0/W35	Standard point acc. to EN14511	2 condensers 1 condensers	kW ı ... kW ı ...
	B0/W45	Standard point acc. to EN14511		kW ı ...
	B0/W35	Standard point acc. to EN255	2 condensers 1 condensers	kW ı ... kW ı ...
Limits of application	Heating circuit			°C
	Heat source			°C
	Additional operating points			...
Sound	Sound level measured at distance of 1m around the device (in reverberating room)			dB(A)
	Sound power level according to EN12102			dB
Heat source	Volume flow: minimum flow rate ı nominal flow rate ı maximum flow rate			l/h
	Pressure loss heat pump Δp (with cooling ΔpK) ı volume flow			bar (bar) ı l/h
	Free compression heat pump Δp (with cooling ΔpK) ı volume flow			bar (bar) ı l/h
	Anti-freeze agent			monoethylene glycol
	minimum concentration ı frost proof down to			% ı °C
Heating circuit	Volume flow: minimum flow rate ı nominal flow rate ı maximum flow rate			l/h
	Pressure loss heat pump Δp (with cooling ΔpK) ı volume flow			bar (bar) ı l/h
	Free compression heat pump Δp (with cooling ΔpK) ı volume flow			bar (bar) ı l/h
General unit data	Dimensions (see dimensional drawing for the specified unit size)			unit size
	Total weight (including cooling)			kg (kg)
	Additional weight module 1			kg
	Additional weight module 2			kg
	Connections	Heating circuit		...
		Heat source		...
	Refrigerant	Refrigerant type ı Quantity		... ı kg
Hot water tank	Net contents			l
	External current anode			integrated
	Hot water temperature			up to °C
	Output 38°C | 45 °C at removal of 10 l/min			l ı l
Electric	Voltage code ı all-pole circuit breaker heat pump *)			... ı A
	Voltage code ı circuit breaker control voltage *)			... ı A
	Voltage code ı circuit breaker electric heating element *)			ı A
Heat Pump	Effective power consumption in standard point B0/W35 according to EN14511: Power consumption ı current consumption ı cosφ			kW ı A ı ...
	Maximum device current within the limits of application			A
	Starting current: direct ı with soft starter			A ı A
	Protection type			IP
	Output electric heating element 3 ı 2 ı 1 phase			kW ı kW ı kW
Components	Circulating pump heating circuit at nominal flow rate: Power consumption ı current consumption			kW ı A
	Circulating pump heat source at nominal flow rate: Power consumption ı current consumption			kW ı A
Passive cooling function	Specification only for units with designator K: Cooling output at nominal volume flow (15 °C heat source, 25 °C heating water)			kW
Safety equipment	Safety component heating circuit ı Safety component heat source			Includ. in scope of delivery: • yes
Heating and heat pump regulator				Includ. in scope of delivery: • yes — no
Electronic soft starter				integrated: • yes — no
Expansion vessels	Heat source: Scope of delivery ı Volume ı Initial pressure			• yes — no ı l ı bar
	Heating circuit: Scope of delivery ı Volume ı Initial pressure			• yes — no ı l ı bar
Overflow valve				integrated: • yes — no
Vibration decouplers	Heating circuit ı heat source			Included in scope of delivery: • yes — no

UK813195

*) comply with local regulations n.n. = not detectable

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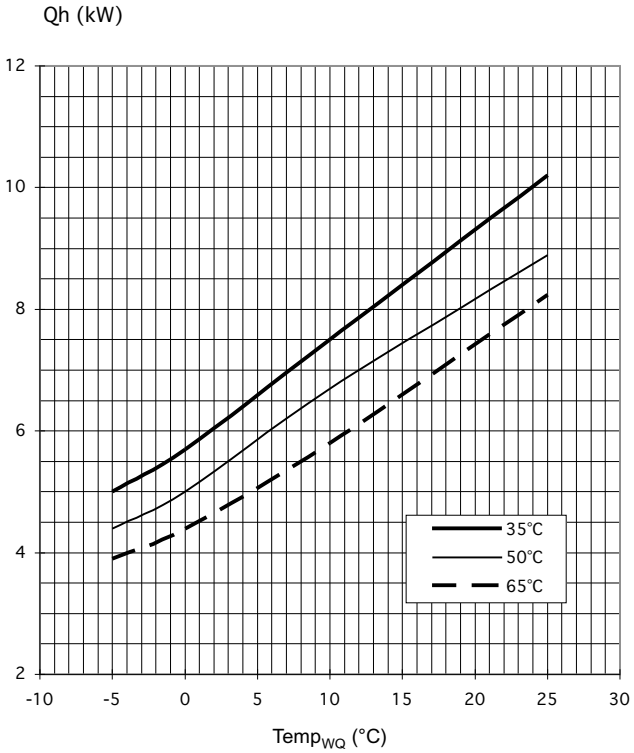
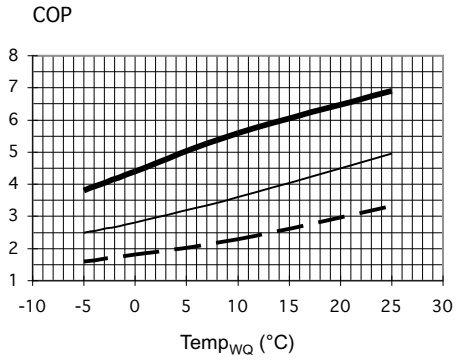
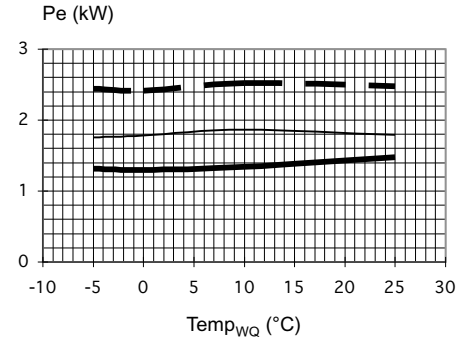
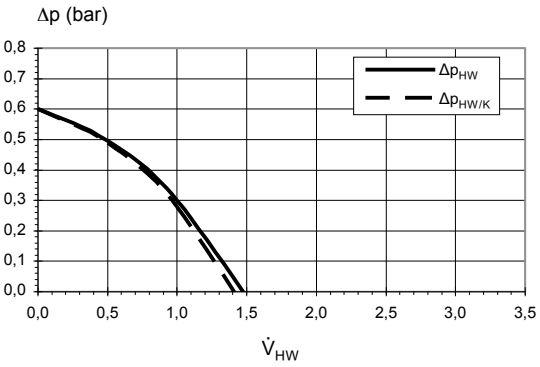
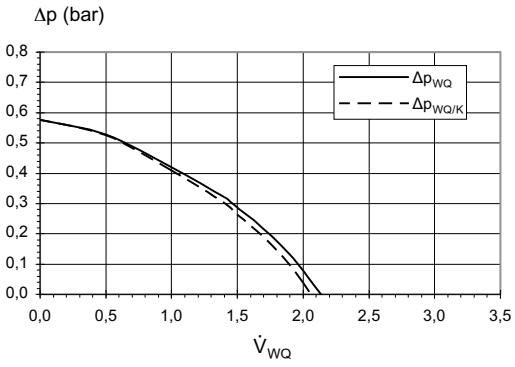
	WZS 60H(/K)	WZS 80H(/K)	WZS 100H(/K)
	• ı — ı —	• ı — ı —	• ı — ı —
	• ı —	• ı —	• ı —
	•	•	•
	—	—	—
	5,7 ı 4,4	8,4 ı 4,4	10,2 ı 4,6
	—	—	—
	—	—	—
	5,8 ı 4,7	8,6 ı 4,6	10,3 ı 4,7
	20 – 65	20 – 65	20 – 65
	-5 – 25	-5 – 25	-5 – 25
	—	—	—
	37	37	37
	49	49	49
	900 ı 1400 ı 2800	1200 ı 1800 ı 3000	1400 ı 2200 ı 3500
	— ı —	— ı —	— ı —
	0,4 (0,38) ı 1100	0,37 (0,35) ı 1400	0,42 (0,39) ı 1600
	•	•	•
	25 ı -13	25 ı -13	25 ı -13
	500 ı 950 ı 1200	750 ı 1400 ı 1800	900 ı 1800 ı 2200
	— ı —	— ı —	— ı —
	0,43 (0,42) ı 700	0,35 (0,33) ı 1000	0,35 (0,31) ı 1300
	1	1	1
	300 (307)	305 (312)	310 (317)
	215	215	215
	85	90	95
	R1"AG	R1"AG	R1"AG
	G1" ÜWM DIN ISO 228	G1" ÜWM DIN ISO 228	G1" ÜWM DIN ISO 228
	R407c ı 1,65	R407c ı 2,0	R407c ı 2,1
	200	200	200
	•	•	•
	55°	55°	55°
	250 ı 210	250 ı 210	250 ı 210
	3~/PE/400V/50Hz ı C10	3~/PE/400V/50Hz ı C10	3~/PE/400V/50Hz ı C10
	1~/N/PE/230V/50Hz ı B10	1~/N/PE/230V/50Hz ı B10	1~/N/PE/230V/50Hz ı B10
	3~/N/PE/400V/50Hz ı C10	3~/N/PE/400V/50Hz ı C10	3~/N/PE/400V/50Hz ı C10
	1,30 ı 2,5 ı 0,75	1,91 ı 3,8 ı 0,73	2,2 ı 4,4 ı 0,73
	4	5,9	6,9
	27,0 ı —	30,0 ı —	— ı 20
	20	20	20
	6 ı 4 ı 2	6 ı 4 ı 2	6 ı 4 ı 2
	0,08 ı n.n.	0,08 ı n.n.	0,08 ı n.n.
	0,1 ı n.n.	0,1 ı n.n.	0,1 ı n.n.
	5,8	6,8	8,3
	• ı •	• ı •	• ı •
	•	•	•
	—	—	•
	• ı 12 ı 0,5	• ı 12 ı 0,5	• ı 12 ı 0,5
	• ı 25 ı 1,5	• ı 25 ı 1,5	• ı 25 ı 1,5
	•	•	•
	• ı •	• ı •	• ı •
	813166-c	813167-d	813168-c











823014

Legend:	UK823000L/170408
$\dot{V}_{HW}$	Volume flow, heating water
$\dot{V}_{WQ}$	Volume flow, heat source
$Temp_{WQ}$	Temperature, heat source
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance / efficiency rating
Δp_{HW} / $\Delta p_{HW/K}$	Free compression, heating circuit / free compression, heating circuit with cooling
Δp_{WQ} / $\Delta p_{WQ/K}$	Free compression, heat source / free compression, heat source with cooling

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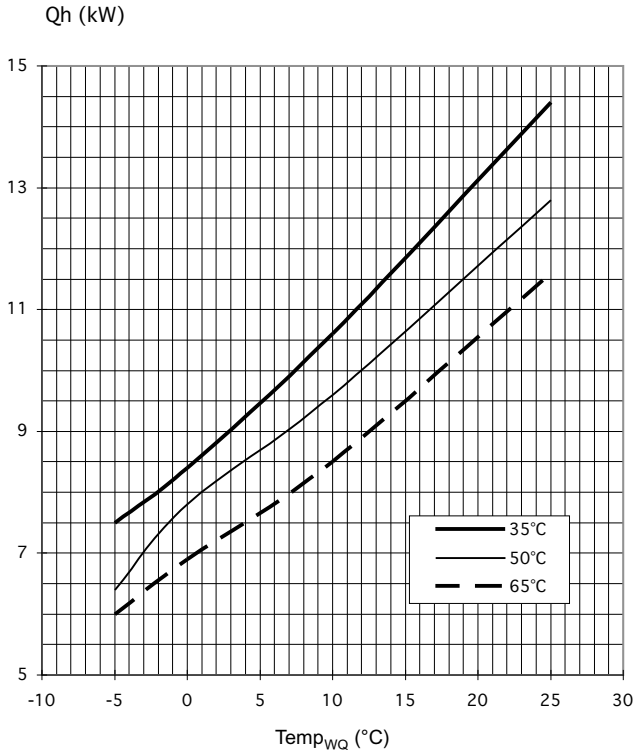
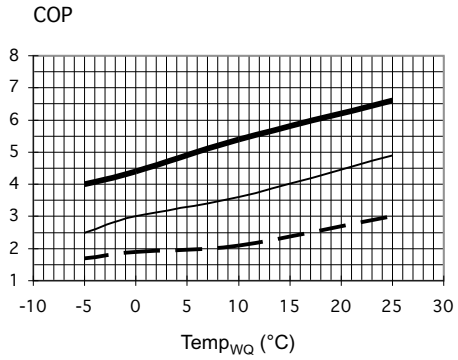
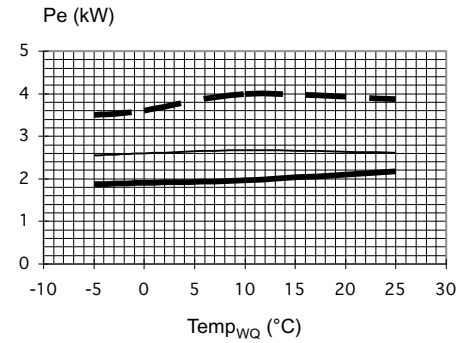
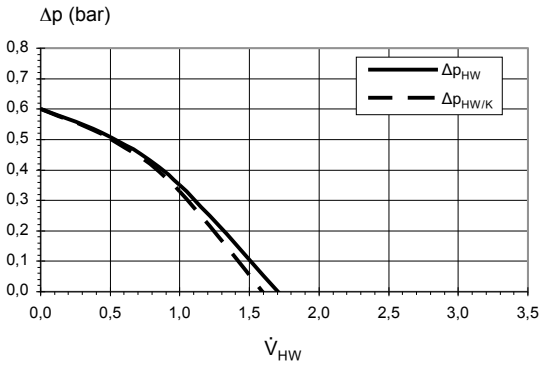
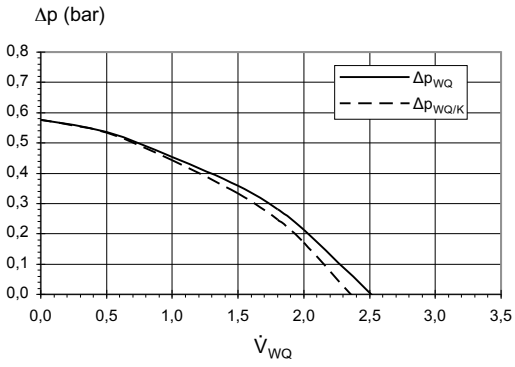




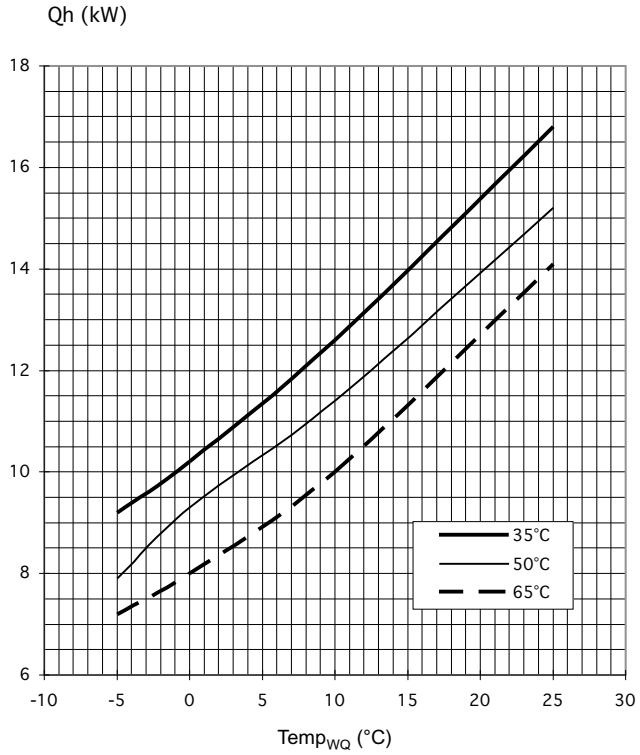


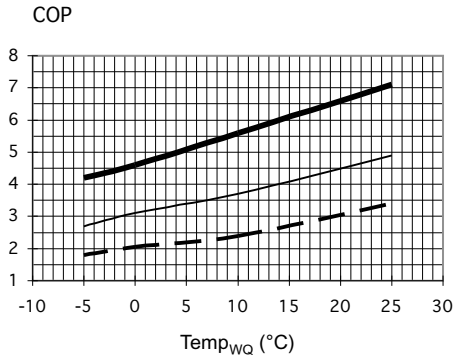


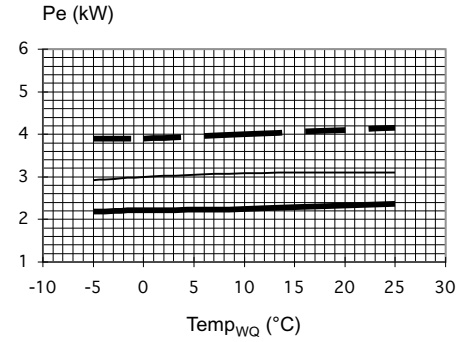


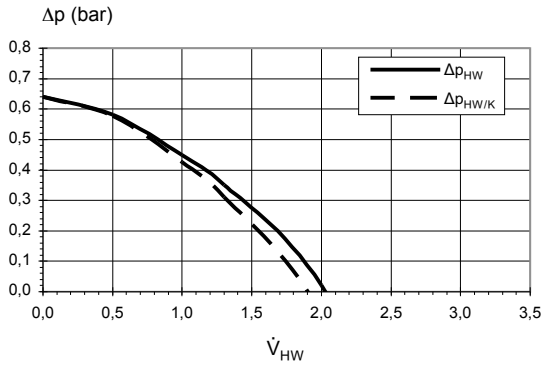
823015

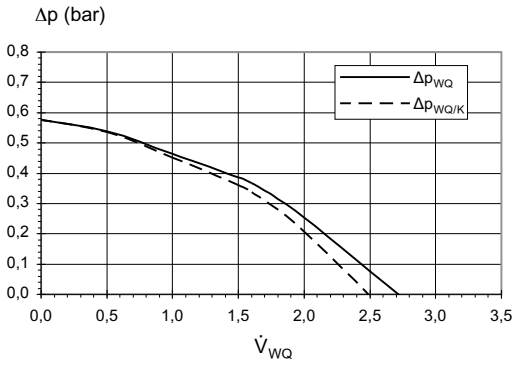
Legend:	UK823000L/170408
$\dot{V}_{HW}$	Volume flow, heating water
$\dot{V}_{WQ}$	Volume flow, heat source
$Temp_{WQ}$	Temperature, heat source
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance / efficiency rating
Δp_{HW} / $\Delta p_{HW/K}$	Free compression, heating circuit / free compression, heating circuit with cooling
Δp_{WQ} / $\Delta p_{WQ/K}$	Free compression, heat source / free compression, heat source with cooling











823016

Legend:	UK823000L/170408
$\dot{V}_{HW}$	Volume flow, heating water
$\dot{V}_{WQ}$	Volume flow, heat source
$Temp_{WQ}$	Temperature, heat source
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance / efficiency rating
Δp_{HW} / $\Delta p_{HW/K}$	Free compression, heating circuit / free compression, heating circuit with cooling
Δp_{WQ} / $\Delta p_{WQ/K}$	Free compression, heat source / free compression, heat source with cooling

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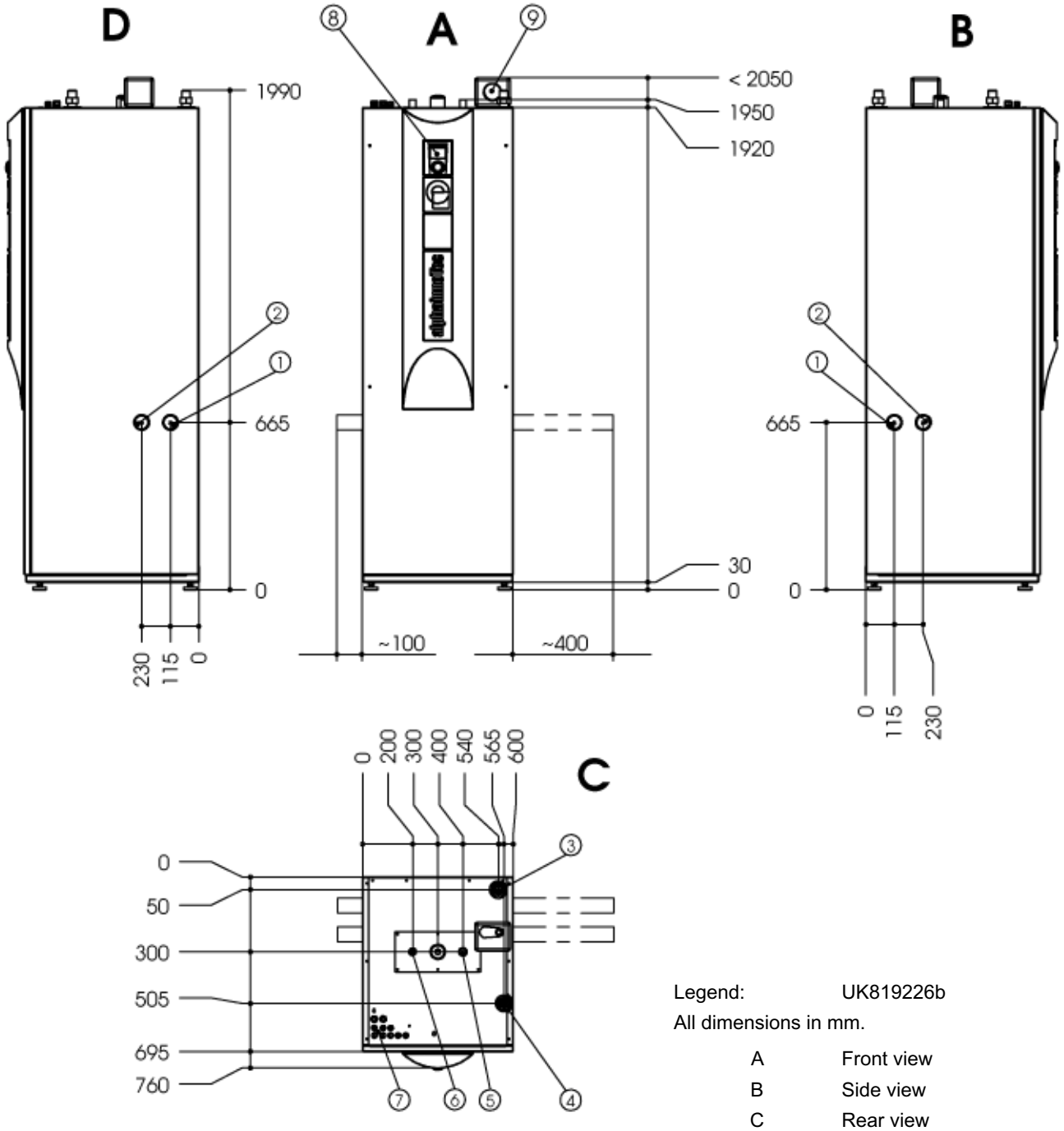
Dimensional drawings



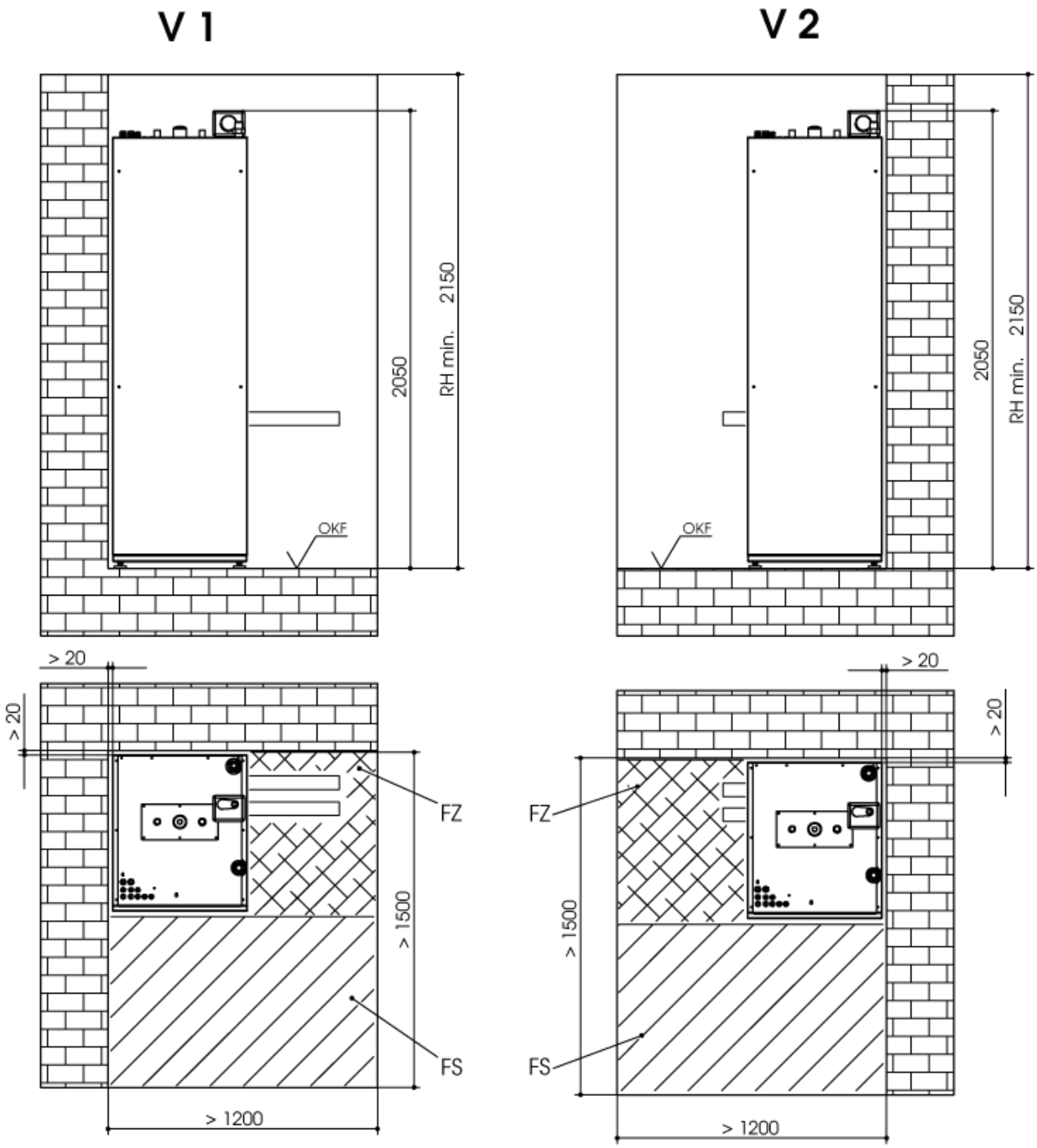
Legend: UK819226b

All dimensions in mm.

A	Front view
B	Side view
C	Rear view
D	Control element

1	Heat source inflow flat sealing cap nut (optionally right or left): G1"
2	Heat source outflow flat sealing cap nut (optionally right or left): G1"
3	Heating water inflow (return flow): R1"
4	Hot water outflow (forward flow): R1"
5	Hot water: R¾"
6	Cold water: R¾"
7	Ducts for electric/sensor cables
8	Control element (in extra box)
9	Safety components (in extra box)

Clearance dimensions



Legend: UK819228b

All dimensions in mm.

RH min.	Room height minimum
FZ	Free space for functionally necessary accessories
FS	Free space for service purposes
OKF	Top edge of finished floor
V1	Version 1
V2	Version 2

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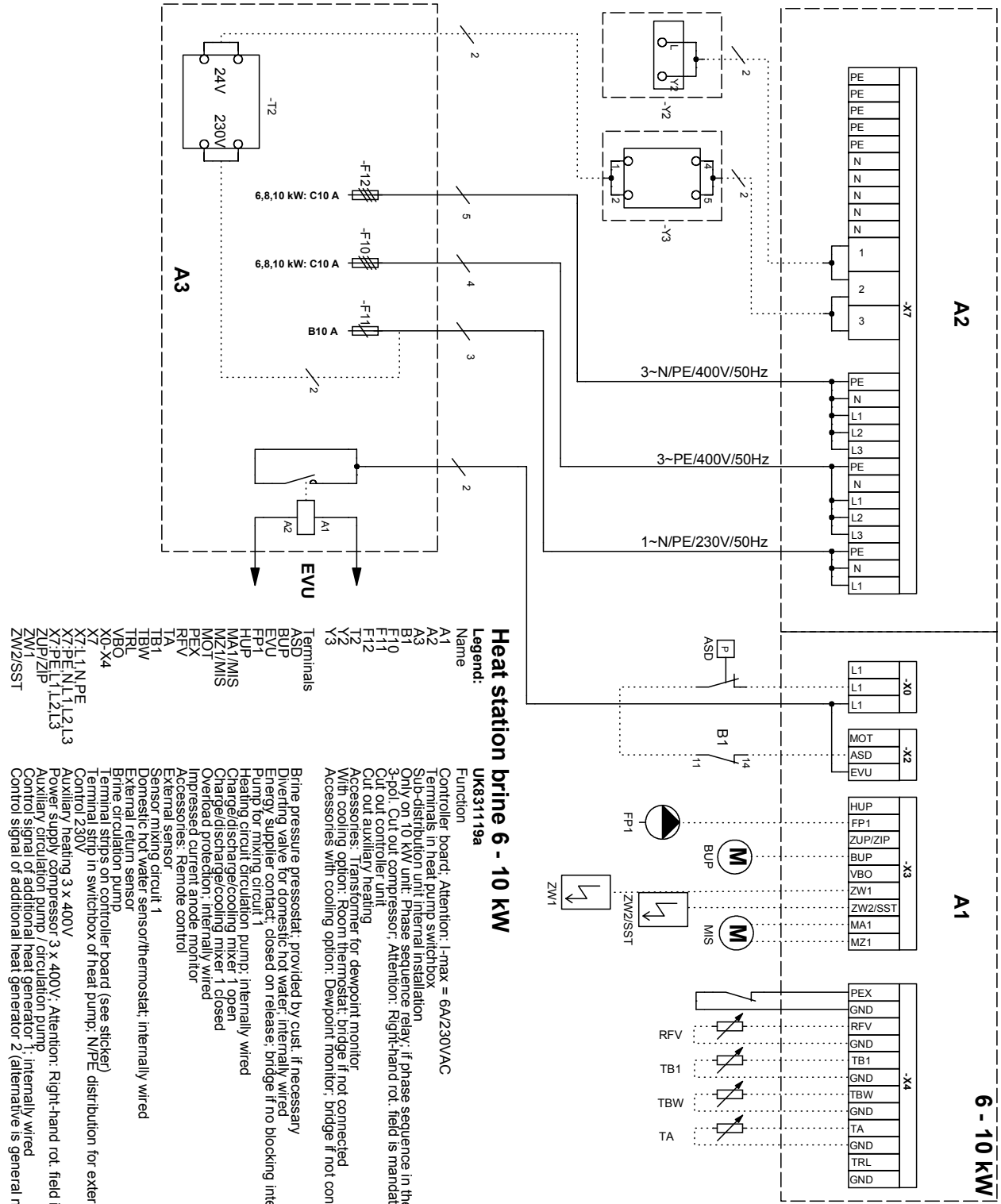
Terminal diagram

WZS 60H(/K) – WZS 100H(/K)



Heat station brine 6 - 10 kW

Legend:

UK831119a

Name	Function
A1	Controller board: Attention: I-max = 6A/230VAC
A2	Terminals in heat pump switchbox
A3	Sub-distribution unit internal installation
B1	Only on 10 kW unit: Phase sequence relay; if phase sequence in the order of 11 + 14 is closed
F10	3-pol. Cut out compressor; Attention: Right-hand rot. field is mandatory!
F11	Cut out controller unit
F12	Cut out auxiliary heating
T2	Accessories: Transformer for dewpoint monitor
Y2	With cooling option: Room thermostat; bridge if not connected
Y3	Accessories with cooling option: Dewpoint monitor; bridge if not connected

Terminals	
ASD	Brine pressure pressostat; provided by cust. if necessary
BUP	Diverting valve for domestic hot water; internally wired
EVU	Energy supplier contact; closed on release; bridge if no blocking interval
FP1	Pump for mixing circuit 1
HUP	Heating circuit circulation pump; internally wired
MA1/MIS	Charge/discharge/cooling mixer 1 open
MZ1/MIS	Charge/discharge/cooling mixer 1 closed
MOT	Overload protection; internally wired
PEX	Impressed current anode monitor
RFV	Accessories: Remote control
TA	External sensor
TB1	Sensor mixing circuit 1
TBW	Domestic hot water sensor/thermostat; internally wired
TRL	External return sensor
VBO	Brine circulation pump
X0-X4	Terminal strips on controller board (see sticker)
X7	Terminal strip in switchbox of heat pump; N/PE distribution for external 230V units
X7:L1,N,PE	Control 230V
X7:PE,N,L1,L2,L3	Auxiliary heating 3 x 400V
ZUP/ZIP	Power supply compressor 3 x 400V; Attention: Right-hand rot. field is mandatory!
ZW1	Auxiliary circulation pump / circulation pump
ZW2/SST	Control signal of additional heat generator 1; internally wired
	Control signal of additional heat generator 2 (alternative is general malfunction)

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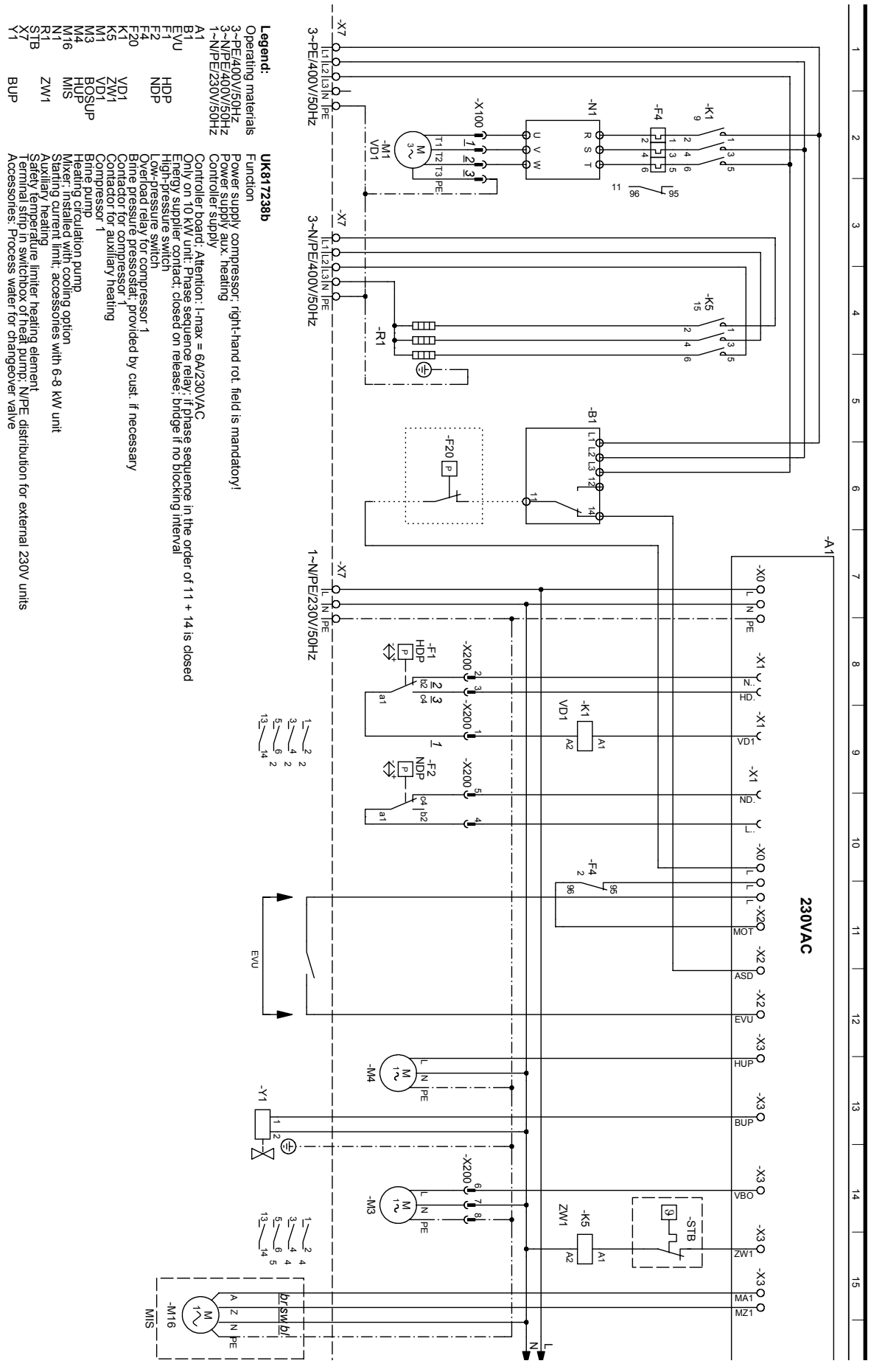

Legend:

Operating materials	
3~PE/400V/50Hz	
3~N/PE/400V/50Hz	
1~N/PE/230V/50Hz	
A1	
B1	
EVU	
F1	HDP
F2	NDP
F4	
F20	
K1	
K5	
M1	VD1
M3	ZW1
M4	VD1
M16	BOSUP
MIS	HUP
N1	
R1	ZW1
STB	
X7	
Y1	
BUP	

UK817238b

Function

Power supply compressor: right-hand rot. field is mandatory!
Power supply aux. heating
Controller supply
Controller board: Attention: I-max = 6A/230VAC
Only on 10 kW unit: Phase sequence relay; if phase sequence in the order of 11 + 14 is closed
Energy supplier contact: closed on release; bridge if no blocking interval
High-pressure switch
Low-pressure switch
Overload relay for compressor 1
Brine pressure pressostat: provided by cust. if necessary
Contactor for compressor 1
Contactor for auxiliary heating
Compressor 1
Brine pump
Heating circulation pump
Mixer: installed with cooling option
Starting current limit: accessories with 6-8 kW unit
Auxiliary heating
Safety temperature limiter heating element
Terminal strip in switchbox of heat pump: N/PE distribution for external 230V units
Accessories: Process water for changeover valve

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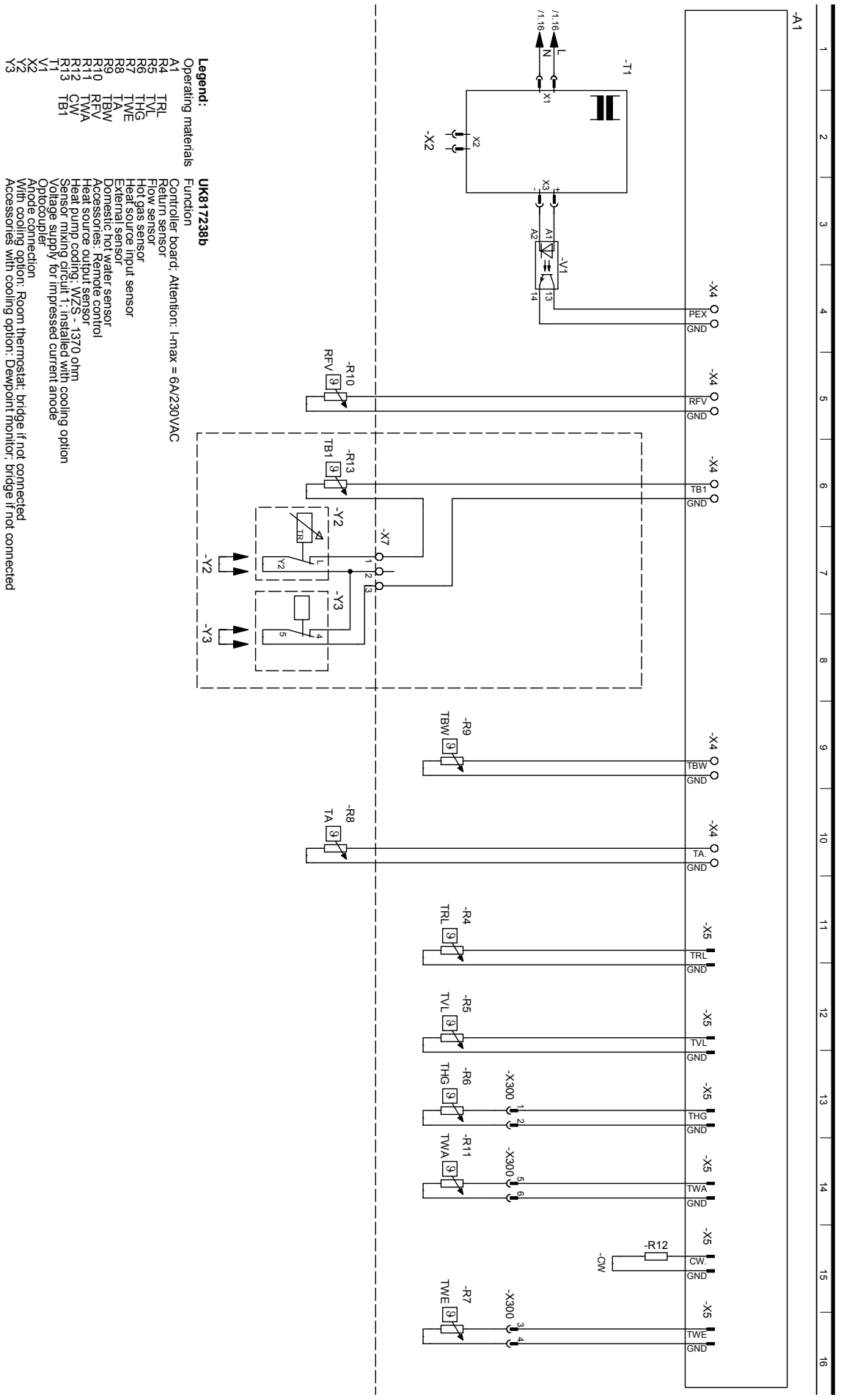
Circuit diagram 2/2

WZS 60H(/K) – WZS 100H(/K)



Legend:

Operating materials	Function
A1	Controller board; Attention: I-max = 6A/230VAC
R4	Return sensor
R5	Flow sensor
R6	Hot gas sensor
R7	Heat source input sensor
R8	External sensor
R9	Domestic hot water sensor
R10	Accessories: Remote control
R11	Heat source output sensor
R12	Heat pump coding: WZS - 1370 ohm
R13	Sensor mixing circuit 1; installed with cooling option
T1	Voltage supply for impressed current anode
V1	Optocoupler
X2	Anode connection
Y2	With cooling option: Room thermostat; bridge if not connected
Y3	Accessories with cooling option: Dewpoint monitor; bridge if not connected
TRL	
TVL	
THG	
TWE	
TA	
TBW	
RFV	
TWA	
CW	
TB1	

EC declaration of conformity

CE

The undersigned
confirms that the following designated device(s) as designed and marketed by us fulfill the standardized EC directives, the EC safety standards and the product-specific EC standards. In the event of modification of the device(s) without our approval, this declaration shall become invalid.

DESIGNATION OF THE DEVICE(S)

Heat Pump

Unit model	Number	Unit model	Number
WZS 60H	100 248	WZS 60H/K	100 207
WZS 80H	100 249	WZS 80H/K	100 208
WZS 100H	100 206	WZS 100H/K	100 209

EC DIRECTIVES

98/37/EG
2006/95/EG
89/336/EWG

STANDARDIZED EN

EN 378
EN ISO 12100-1/2
EN 294
EN 349
EN 60335-1/-2-40
EN 55014-1/-2
EN 61000-3-2/-3-3

NATIONAL STANDARDS/DIRECTIVES

DE
UVV BGV D4
DIN 8901

AT

CH
NEV (SR 743.26)

Company:

alphaInnoTec

Industriestrasse 3, D – 95359 Kasendorf

Place, date: Kasendorf, 11.05.2007

Signature:

Jesper Stannow
Director of Development

DE818102

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General checklist

FOR PREPARATION OF THE COMPLETION REPORT FOR HEAT PUMP SYSTEMS

The general checklist is intended as an aid for the installation and assembly personnel. It makes no claim to be exhaustive. Nevertheless, all items must be checked carefully for compliance.

Heat source air

Channels closed and sealed	☐ Yes
Weather protection screen installed	☐ Yes
Rotary field of fan	☐ O.K.

Heat source brine / heat source water

Heat source volume flow [1]	☐ O.K.
Motor protection setting	.....A
Rotary field of heat source circulating pump	☐ O.K.
Heat source filled, air-free and sealed	☐ Yes

Brine

Frost protection down to	.....°C

Water

Water quality OK [2]	☐ No	☐ Yes
Well system		☐ Yes
Other heat source		☐ Yes

Heat Pump

Installation of condensate hose		☐ O.K.
Decoupled from structure		☐ Yes
Vibration decouplers for the heating circuit and heat source connections installed	☐ No	☐ Yes

Heating

Volume flow [1]	☐ O.K.
Heating system designed for maximum	.....°C
Heating system filled, air-free and sealed	☐ Yes
Low temperature heating	☐ Yes
High temperature heating	☐ Yes
All heating circuits can be opened	☐ Yes
Forward flow tank	☐ Yes
Return flow tank	☐ Yes
Separating tank	☐ Yes
Content	 l
Additional heating	..... kW

Hot water

with heat pump	☐ No	☐ Yes
request with thermostat		☐ Yes
request with cooling		☐ Yes
Volume flow [1]		☐ O.K.
Heat exchanger surface		..... m²
Connections sealed		☐ Yes

Electric

Rotary field, power network		☐
Protective measures inspected		☐ Yes
Rotary field of condenser		☐ O.K.
Return flow sensor mounted	☐ Internal	☐ External
Outdoor sensor mounted	☐ No	☐ Yes

[1]) Checked with specification

[2]) Report of water analysis must be submitted

Checked on: .....

By: .....

Signature : .....

In Germany the following applies:

Send this completed general checklist to the factory customer service department, together with the completion report for heat pump systems.

Outside of Germany the following applies:

Send this completed general checklist to the manufacturer's local partner, together with the completion report for heat pump systems.

Sending the completion report is also a request for a technician authorized by the manufacturer to commission your heat pump.

FAZ-WP Formblatt UK820522c Stand: 240407

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Completion report for heat pump systems

in **DE:** to the Alpha-InnoTec customer service department +49 (0) 9228 9906 199

in **AT:** to the Alpha-InnoTec customer service department +43 (0) 732 24 42 01 4

in **CH:** to the Alpha-InnoTec customer service department +41 (0) 62 748 20 01

in all other countries:

To the manufacturer's local partner

COMPLETION REPORT AND REQUEST FOR FACTORY COMMISSIONING

During commissioning, the heat pump system will be inspected to ensure that it is functioning properly. This ensures that all factory specifications have been checked and that the system can operate reliably over an extended period. The factory commissioning involves costs and is mandatory for extension of the warranty services.

☐ **Initial commissioning** ☐ **Repeat commissioning**

Heat pump type

Regulator type

CONTRACTOR

☐ Electric ☐ Heating

☐ other company

Company

Contact

Street address

ZIP code / head office

Phone

END CUSTOMER / OPERATOR

Name / First name

Street address

ZIP code / city

Phone

Preferred date

Date / time

Alternate date

Date / time

The completion report should be submitted 8 work days before the desired commissioning date. If there is a conflict with the date, you will be contacted by phone.

I/we hereby confirm that all preliminary work required for commissioning has been carried out and completed. The system is ready for operation.

The attached general checklist is provided for information purposes; all items should be checked.

Has the heating system been filled and depressurised; do the circulation pumps function properly?	☐ No	☐ Yes
Is the heat source system completed, inspected and OK?	☐ No	☐ Yes
Have the heating circuit, heat source system and circulating pumps been bled?	☐ No	☐ Yes
Are all electrical components permanently connected according to the circuit diagram, are all sensors mounted correctly?	☐ No	☐ Yes
Have all volume flows and water flow rates been checked and are they OK?	☐ No	☐ Yes

In the event that the heat pump system is not ready for operation and if installation work has to be performed by the commissioning technician during commissioning, this will involve charges to the contractor. If the heat pump system is not ready for operation, the commissioning technician can request a repeat commissioning, which will involve additional costs.

The contractor or an authorized representative must be present during commissioning.

The operator of the system should be present during commissioning in order to ensure that proper instruction is received.

An acceptance report will be prepared during commissioning.

I, the undersigned, hereby request commissioning, in return for a fee.

Invoice to ☐ Contractor ☐ End customer / operator

Place, date Name (block letters) Signature / company stamp

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Space for notes

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Customer service

ADDRESSES IN THE EVENT OF A SERVICE CALL

For a current list and additional partners of the manufacturer, please visit www.alpha.innotec.com.

DE
Alpha-InnoTec GmbH
Industriestrasse 3
95359 Kasendorf
Tel.: +49 (0) 9228 9906 190
Fax: +49 (0) 9228 9906 199
e-Mail:info@alpha-innotec.com
www.alpha-innotec.com

AT
Peter Riess
Mannheimstrasse 1
4040 Linz
Tel.: +43 (0) 22 44 20 18
Fax: +43 (0) 22 44 20 14
e-Mail: peter.riess@liwest.at

BE
NATHAN Import/Export N.V.-S.A.
Lozenberg 4
1932 Zaventem
Tel.: +32 (0) 27 21 15 70
Fax: +32 (0) 27 25 35 53
e-Mail: info@nathan.be
www.nathan.be

BR
THERMACQUA
AV. República Argentina
3021 Conj. 21 Piso L
CEP 80610-260 Portao Curtiba PR
Tel.: +55 (0) 41 301 566 59
Fax: +55 (0) 41 301 566 59
e-Mail: otto@thermacqua.com.br
www.thermacqua.com.br

CH
Vertretung Alpha-InnoTec Schweiz
Calmotherm AG
Industriepark
6246 Altishofen
Tel.: +41 (0) 62 74820 00
Fax: +41 (0) 62 74820 01
e-Mail: info@calmotherm.ch
www.alpha-innotec.ch
www.calmotherm.ch

Suisse romande
Calmotherm SA
a.v. de Provence 12
1007 Lausanne
Tel.: +41 (0) 21 661 31 43
Fax: +41 (0) 221 661 31 45
e-Mail: info@calmotherm.ch
www.calmotherm.ch

Ticino
Giuliani SA
Via alla Torre 2
6850 Mendriso
Tel.: +45 (0) 91 646 08 81
Fax: +45 (0) 91 646 09 91
e-Mail: giuliani.sa@calmotherm.ch
www.calmotherm.ch

CZ / SK
Tepelna Cerpadia AIT
nám. Republiky 15
614 00 Brno
Tel.: +42 (0) 545 21 40 03
Fax: +42 (0) 545 24 20 90
e-Mail: info@alphatec.cz
www.alpha-innotec.cz

DK
ASAP Energy
Damgade 34
6400 Sønderborg
Tel.: +45 (0) 74 4304 80
Fax: +45 (0) 74 4304 81
e-Mail: info@asap.dk
www.asap.dk

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FR
Caldis SarL
Parc d'activités Centr'Alp
209, rue du Rocher de Lorzier
38430 Moirans
Tel.: +33 (0) 4 7691 30 01
Fax: +33 (0) 4 7635 55 90
e-Mail: info@caldis.fr
www.caldis.fr

GB
(England / Wales)
3rd rock energy Ltd.
7 Trowbridge Road, Westbury
Wiltshire BA13 3AY
Tel.: +44 (0) 845 603 37 74
Fax: +44 (0) 845 280 33 66
e-Mail: info@3rdrockenergy.com
www.3rdrockenergy.com

HU
Thermo Kft.
Krisztina körút 27
1122 Budapest
Tel.: +36 (0) 1 356 20 46
Fax: +36 (0) 1 214 28 68
e-Mail: info@geosolar.hu
www.geosolar.hu

IE
PowerTech Ireland Ltd.
40 Dovesky Road
BT79 9BU Omagh, Carrickmore
Tel.: +44 (0) 28 8076 00 88
Fax: +44 (0) 28 8076 04 95
e-Mail: info@powertechireland.co.uk
www.powertechireland.co.uk

IT
(Südtirol / Alto Adige)
PENKOFF
Gemsengasse 17
A – 6020 Innsbruck
Tel.: +43 (0) 5122 7647 90
Fax: +43 (0) 5122 7647 930
e-Mail: office@penkoff.com
www.penkoff.com

LV
SIA „EVA-SAT"
Krasta iela 44
1003 Riga
Tel.: +371 (0) 75 054 80
Fax: +371 (0) 75 053 99
e-Mail: armands.c@evasat.lv
www.evasat.lv

NL
NATHAN Import/Export B.V.
Impact 73
6921 RZ Duiven
Tel.: +31 (0) 26 445 98 45
Fax: +31 (0) 26 445 93 73
e-Mail: info@nathan.nl
www.nathan.nl

NO
Ingv. Torgersen
Langgt. 38
4306 Sandnes
Tel.: +47 (0) 51 6605 95
Fax: +47 (0) 51 6605 94
e-Mail: info@alpha-innotec.no
www.alpha-innotec.no

PL
Hydro-Tech
ul. Zakladowa 4d
62-510 Konin
Tel.: +48 (0) 63 245 34 79
Fax: +48 (0) 63 242 37 28
e-Mail: hydro@hydro-tech.pl
www.alpha-innotec.pl
www.hydro-tech.pl

SE
Vämekyl Grossisten AB
Hammarbacken 46
19 149 Sollentuna
Tel.: +46 (0) 8 446 32 10
Fax: +46 (0) 8 732 46 20
e-Mail: info@vkg.se
www.vkg.se

SI
Zeus Solar d.o.o.
Mace 6
4205 Preddvor
Tel.: +38664 (0) 2 555 780
Fax: +38664 (0) 2 555 782
e-Mail: zeussolar@siol.net
www.zeussolar.si

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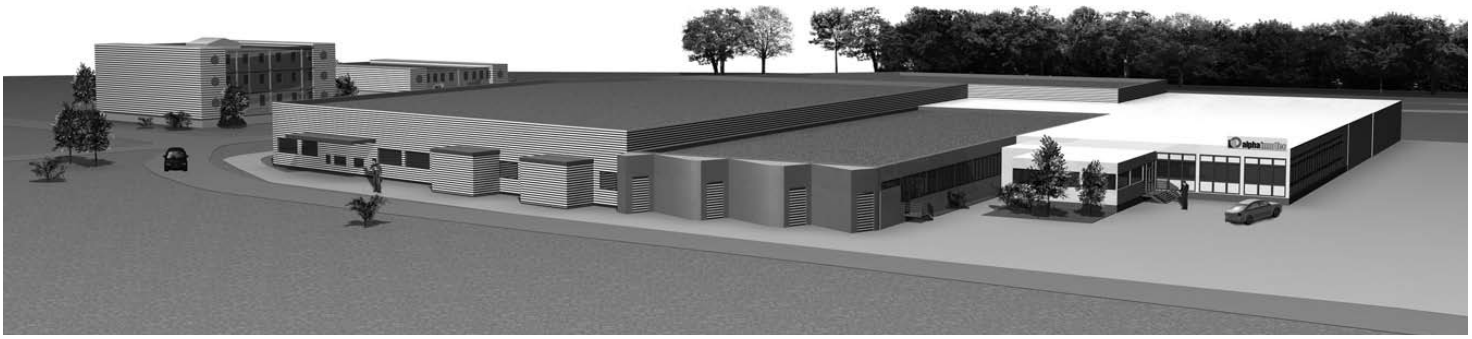

DE

Alpha-InnoTec GmbH
Industriestrasse 3
D – 95359 Kasendorf
Tel.: +49 (0) 9228 9906 0
Fax: +49 (0) 9228 9906 29

e-Mail: info@alpha-innotec.com

www.alpha-innotec.com

alphaInnoTec